

Network Video Recorder

User's manual

Ver. 1.0

Safety Precautions

You must observe the following rules when you use this product:

1. Do not place any container (e.g. a cup) that holds liquid on the NVR.
2. Please position the NVR in a well-ventilated room.
3. Please use this device within the allowed temperature and humidity range.
4. Dust on the PCB will lead to a short circuit once it is affected with damp. To ensure that the device can run properly for a long term, please regularly remove dust from the PCB, connector, chassis fan, chassis and other parts using a soft hair brush.
5. How to connect the ground pole of the device: This system is designed with two ground terminals: the system protection ground terminal and the heavy current discharge ground terminal. Connect the protection ground wire (a copper wire, with a sectional area greater than 0.75 square millimeter) led out from the system protection ground terminal to the protection ground bar of the equipment room. The heavy current discharge ground terminal is used to discharge heavy current led in by the line to the ground, thus ensuring that the device runs normally. This port must be connected to the lightning protection ground end of the system in accordance with the lightning protection standard and cannot be suspended.

Features

Audio and video input

- Supporting connection to 8*D1/1*1080P+1*D1/1*720P+5*D1 digital camera.
- Each video channel supports dual stream compression, and either code stream can be selected for connection and implementing network browsing.
- The video encoding parameters of each channel can be adjusted separately, such as the resolution, frame rate, code rate and image quality.
- Supporting video stream encoding and composite stream encoding of synchronous audio stream and video stream
- Supporting the watermarking technology
- Supporting 8 channels video playback simultaneous

Local surveillance

- Supporting three independent local outputs of VGA/HDMI, main audio/video port and auxiliary audio/video port
- VGA/HDMI high definition output, highest resolution can be up 1080P.
- Supporting 1/4/8/9-image preview and adjustable preview channel sequence
- Preview supports packet switching, manual switching or automatic polling preview. The automatic polling cycle can be set.
- Supporting video motion detection and video loss detection
- Built-in mainstream PTZ decoder control protocol; supporting customized PTZ protocol upgrade, as well as preset point, cruise path and track

Harddisk file management

- Supporting up to 8 SATA harddisks; the capacity of each harddisk can be greater than 2TB.
- Supporting the harddisk S.M.A.R.T technology
- Supporting harddisk dormancy
- Supporting harddisk pack management
- Using the EXT3 file format, stable and reliable, and thoroughly eradicating generation of harddisk fragments

Video recording and playback

- Supporting the cyclic write-in mode and non- cyclic write-in mode
- Supporting the manual, scheduled, alarm, motion detection and other video recording trigger modes
- Seven video recording time segments can be set in a day, and the video recording trigger modes in different time segments can be set separately.
- Supporting switching value alarm and pre-recording and delay video recording of motion detection

- Supporting search and playback of video recording by conditions such as channel number, video recording type, file time and start/end time
- Supporting pause, fast play, slow play, play forward, play backward and other functions during playback

Data backup

- Supporting backup through the USB interface
- Supporting backup through the eSATA interface
- Supporting mass backup
- Supporting management and maintenance of backup devices

Alarm and exception management

- Uniformly managing the switching value alarm input/output of the device and IP channel.
- Uniformly managing the motion detection alarm and alarm on video signal unavailability of the device and IP channel
- Supporting arm time setting of alarm input/output
- Supporting alarm on video signal unavailability, video motion detection alarm, harddisk error alarm, and full harddisk alarm
- All alarms and exceptions can trigger video recording of any channel, switching value alarm output, buzzer alarm, and uploading to the alarm center.
- The system can recover automatically when an exception occurs during its running.

Other local features

- The user can operate the system through the front panel button, shuttle key, mouse, remote control and dedicated keyboard.
- Three-level permission user management; the administrator can create multiple operation users and set permissions for them, and make permissions specific to channels.
- Supporting recording and searching of complete operation, alarm, exception and information logs
- Supporting manual alarm triggering and clearing

Network features

- Supporting the 10M/100M/1000M adaptive network interface
- Supporting the TCP/IP protocol stack and protocols including PPPoE, DHCP, DNS, DDNS, FTP and SMTP
- Supporting unicast and multicast; supporting TCP, UDP and RTP in the case of unicast
- Supporting remote search, playback and downloading of video recording files
- Supporting remote access and configuration of parameters
- Supporting remote access of the device running status, system log and alarm status
- Supporting remote key pressing operation

- Supporting remote hddisk formatting, program upgrading, restarting, powering-off and other system maintenance operations
- Supporting RS-232 and RS-485 transparent channel transmission
- Uploading alarms and exceptions to the remote alarm host
- Supporting remote manual triggering and stopping of video recording
- Supporting remote manual triggering and stopping of alarm output
- Supporting remote JPEG image capture
- Supporting remote PTZ control
- Supporting voice intercommunication or voice broadcasting
- Designed with an embedded WEB Server

Development support

- Providing a SDK software development kit
- Providing application source codes for demonstration
- Providing development support and development training service related to the application system

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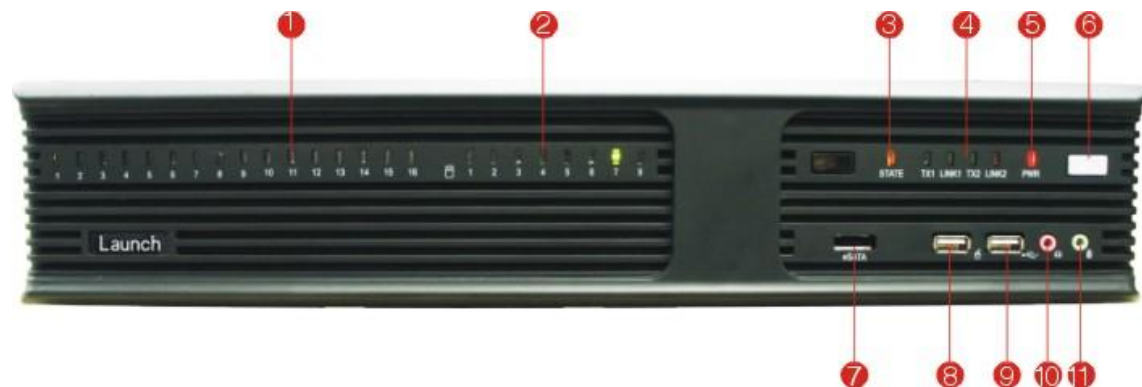
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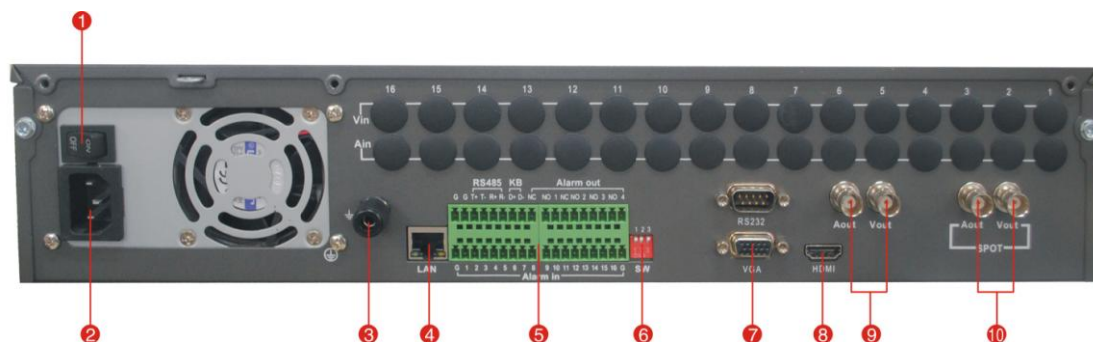
Chapter 1

Operation Instructions

1.1 Front Panel Buttons and LEDs



No.	Name	Description
1	Video recording LED	Video recording LEDs of channels 1-16; blinking in green means video recording status.
2	Harddisk LED	Normal operating LED of the harddisk; blinking in green means normal operating status.
3	STATE LED	It is constantly on when the device is powered on; blinking in orange means normal operating.
4	Network port LED	Green means normal network operation; blinking means data transmission.
5	PWR LED	The PWR LED is constantly on in red when the device is electrified.
6	Power button	This button is constantly on in blue when the device is electrified.
7	eSATA	The eSATA harddisk interface is used to connect to the eSATA harddisk.
8	Mouse interface	The mouse interface is used to connect to the mouse.
9	USB	It is the USB interface.
10	Earphone interface	It is the audio output interface of earphone.
11	Microphone interface	It is the audio input interface of microphone.



- ① Power ON/OFF
 - ② AC 220Vnd
 - ③ Discharge ground :when cascading multiple devices, must ground through the common ground first , and then connect with the control keyboard and power input protection grou
 - ④ LAN interface
 - ⑤ RS-485 Serial Interface, KB keyboard interface(support concatenation)
 - ⑥ Dial switch
 - ⑦ RS-232 interface、VGA output
 - ⑧ HDMI output
 - ⑨ VOUT、AOUT
 - ⑩ VOUT、AOUT
- Noet: Grounding

1. Requirement of device grounding type

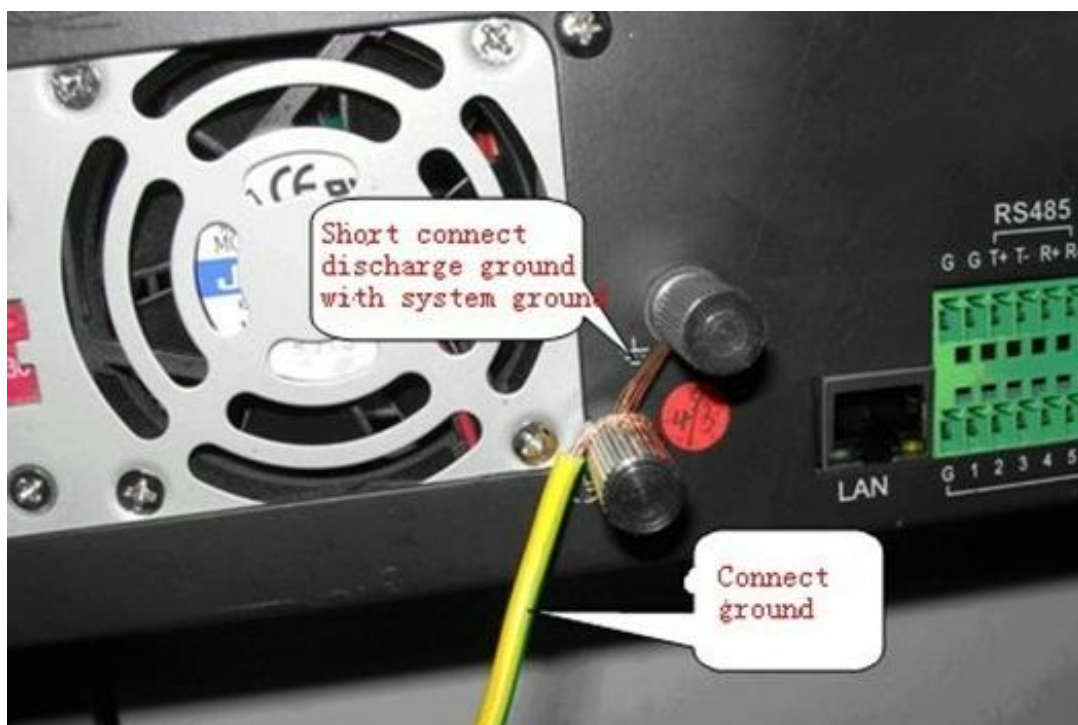
Type	Name	Function	Requirement
EGND	Discharge ground	For discharge lightning surge and other large electric current, to protect related disturbed interfaces	Ensure a good connection with project discharge ground, wire proportion >1.5 mm2, recommend multistrand wires
GND	System ground	Potential reference ground of PCB board and other parts (i.e. harddisk) of device.	Ensure a good connection with system discharge ground, wire proportion >1.5 mm2, recommend multistrand wires

2. Ground

Condition	Method	Diagram
Discharge ground and System ground	Discharge ground, system ground should be responding with the project ground (EGND-EGND, GND-GND) and connect,. NOT allowed to connect opposite or wrong	Picture 1
Two type grounds to conbinning one	Short circuit the EGND, GND, then connect to the grounding bar.	Picture 2



Picture 1 NVR discharge ground, system ground diagram



Picture 2 NVR system ground diagram

1.2 Mouse

Name	Action	Description
Left key	Click	Selecting and confirming the operation item
	Double-click	Switching to display single image and multiple images in the preview and playback status
	Press to drag	1. Setting the area scope in settings of motion detection and video masking alarm area 2. Dragging the channel and time display scroll bars 3. Quickly access to PTZ control interface
Right key	Click	Displaying the right-click menu

Note: If the mouse cannot be detected after it is connected, the possible reason is that the mouse is incompatible with the NVR. Please replace the mouse.

1.3 Remote Control

No.	Key Name	Description
1	POWER	Powering off the device; press the POWER key for more than 3 seconds to display the “Power off” menu, and select “Power off” to turn off the device.
2	DEV	Enabling/disabling the remote control; press the [DEV] key, enter the device number of the NVR to be operated (e.g., press the numeric keys [0] and [1] if it is defaulted to “01”) through the remote control, and then press the [OK] key. Then, you can control the NVR whose device No. is 01.
3	Numeric Keys	Entering numbers and capital and small English letters, and switching 16 channels; You need to press two numeric keys to switch 16 channels. For example, to switch to channel 1, press the [0] key, and then press the [1] key in 1 S; to switch to channel 16, press the [1] key, and then press the [6] key in 1 S.
4	EDIT	Entering the editing status and deleting the character before the cursor in the editing status
5	A	Switching the entry status (numbers and capital and small English letters)
6	REC	Entering manual video recording
7	PLAY	Entering search of video recording
8	INFO	Displaying the system information
9	VOIP	Entering the menu for setting main/auxiliary interface screen split and polling
10	MENU	Entering the main menu of the system
11	PREV	Cyclically switching among 1 screen, 4 screens, 9 screens and 16 screens
12	Direction Keys	Controlling the PTZ action in the PTZ control status; in the play status, the [Up] key is used for accelerating playing, the [Down] key is used for slowing down playing, the [Left] key is used for playing the previous file, and the [Right] key is used for playing the next file; in the preview status, the [Left] key is used to go to the previous screen, and the [Right] key is used to go to the next screen.
13	OK	Controlling automatic PTZ revolving in the PTZ control status and playing/pausing in the play status
14	PTZ	Entering the PTZ control menu
15	ESC	Exiting the menu
16	F1	Turning on/off the virtual keyboard in the menu status
17	F2	Switching tabs in the menu status
18	FRAME	Playing forward or backward by I frame in the video recording playback status

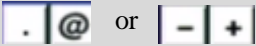



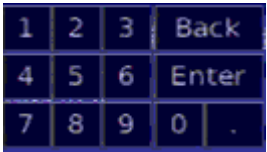
19	IRIS, FOCUS and ZOOM Keys for lens control	Adjusting the iris, focusing and zooming respectively
20	LIGHT	Controlling switching of the PTZ light
21	WIPER	Controlling switching of the PTZ wiper

Precautions for using the remote control: Before using the remote control, make sure that the batteries are installed correctly. In operation, point the infrared transmitting end of the remote control to the infrared receiving port of the NVR. If operation fails, enter "Setup Menu" --> "General"--> "Options" and check "Device ID" of this device; press the [DEV] key on the remote control, enter the device ID of this NVR to be operated and then press the [OK] key on the remote control. Now, if the NVR completely receives the remote control instructions, you can operate this NVR by using the remote control. In the entire operation procedure, there is no prompt information on the NVR panel or monitor. If the remote control cannot control the device, try it again: press the [DEV] key, enter the device ID, and press the [OK] key. If control still fails after many attempts, check as follows to find out the reason: 1. Check positive and negative polarities of the batteries; 2. check if the batteries are exhausted; 3. check if the remote control sensor is obstructed; 4. check if any fluorescent lamp is on nearby. If the remote control cannot function well after the above reasons are eliminated, replace it; if the new remote control cannot function either, contact the supplier.

1.4 Input Method









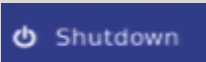









Icon	Description
	Canceling the current input content in the Chinese character input status
	Number input keys
 or 	Entering “.” and “@” in the English letter input status; “-” and “+” are displayed in the Chinese character input status and used for turning pages of candidate characters.
	New line key
	Letter input keys
	Backspace key for deleting
	Caps Lock key
	Enter key
	Chinese character and English word switching key
	Space key (it is used to confirm Chinese phonetic alphabets and display candidate Chinese characters when Chinese phonetic alphabets are entered)
	Mouse/keyboard input(Display current input is Allah Number, uppercase English or not of the mouse or keyboard)



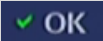

Editor Number

Icon	Description
	Enter
	Number input icon
	Backspace
	Dot

1.5 Menu

Example Flag	Name	Description
	Property page	The operation interface in the menu is marked using double quotation marks in the text, e.g. “Option” and “Video”.
	Edit box	Input the letter, character and symbol via virtual keyboard, the character in the right of the box means the current input character type.
	Input box	You can edit and enter letters, characters, symbols, etc.
	Dropdown box	You can edit and enter a number, and use the upward/downward arrow button on the right to increase/decrease the selected value.
	Check box	Select one from the dropdown list options. At least two options are available, but only one can be selected.
	Alarm linkage record	Indicating whether this function is selected
	Button	Manually selecting the video recording channel
	Scheduled video recording	Flag of scheduled video recording, blinking at the upper right corner of the image
	Manual video recording	Flag of manual video recording, blinking at the upper right corner of the image
	Alarm indicate	Flag of manual video recording, blinking at the upper right corner of the image
	USB indicate	Indicate when connecting USB at the right bottom of the image
	First page	At the bottom of list, click to turn to the first page
	Last page	At the bottom of list, click to turn to the last page
	Previous page	At the bottom of list, click to turn to the previous page
	Next page	At the bottom of list, click to turn to the next page
	Turn to	Turning to the designated page

Note: Below are common functional buttons in lists:

Button	Function	Button	Function
	Saving parameter settings in the menu		Canceling parameter settings in the menu

1.6 Power-on and Power-off

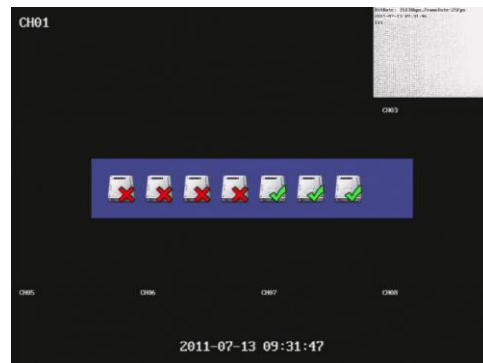
Power-on

Note: Confirm that the connected voltage matches the requirement of the NVR and the ground end of the NVR is properly grounded. Prior to power-on operation, make sure that one display is connected to the VGA interface on the back panel, or one monitor is connected to the VIDEO OUT interface on the back panel when the VGA interface is not connected, otherwise you cannot see any man-machine interaction prompt or operate the menu after the device is powered on.

If the power status LED of the front panel is off, insert the power supply and turn on the power switch. Then, the device starts. After the device starts, the [Power] button LED is in blue. If there is “×” on the harddisk icon, it indicates that harddisk is not installed or not detected. The interface is shown as follows:



The system is starting...

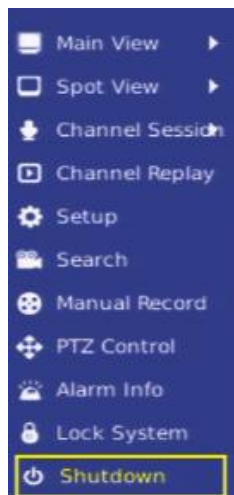


harddisk initialization

Power-off

Power-off normally

Steps: 1. Right-click on the real-time surveillance page.



2. Select “Shutdown” to display a dialog box.

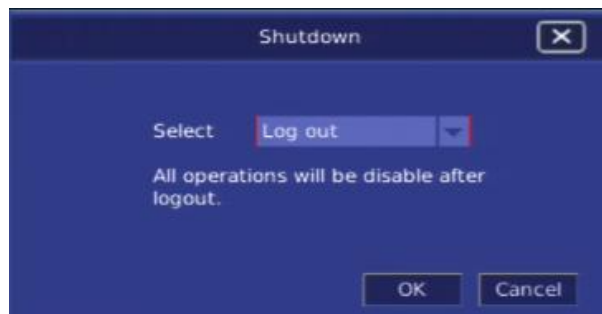


3. You can select “Log out”, “Reboot” or “Shutdown”.

4. Select “Shutdown”, and then click [OK].

Use the front panel button

Steps: 1. Long press the [Power] button on the front panel when the device is running. The interface pops up on the screen, as shown in the right diagram:



2. You can select “Log out”, “Reboot” or “Shutdown”.

3. Select “Shutdown”, and then click [OK].

Power-off abnormally

Use the switch on the back panel

When the device is running, do not cut off the power supply by directly pressing the power switch on the back panel (especially during video recording).

Directly unplug the power cord

When the device is running, do not directly unplug the power cord (especially during video recording).



Tip: In some environments, abnormal power supply will disable the NVR from operating properly, or even damage the NVR when the problem is severe. In these environments, it is recommended to use the regulated power supply.

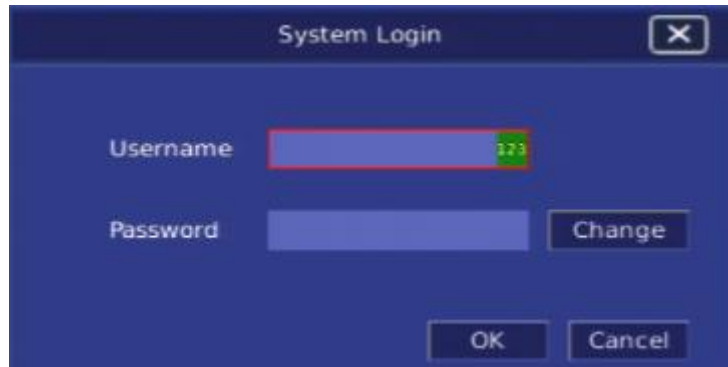
Chapter 2

Preview

2.1 Preview Interface Status

Login:

1. After the device is powered on and initialized, the real-time preview interface appears. Right-click the display the system login box:



2. Click the virtual keyboard, and enter the username and password. Click [OK].



Note: You will go back to the preview interface when the username and password are correct and login succeeds.

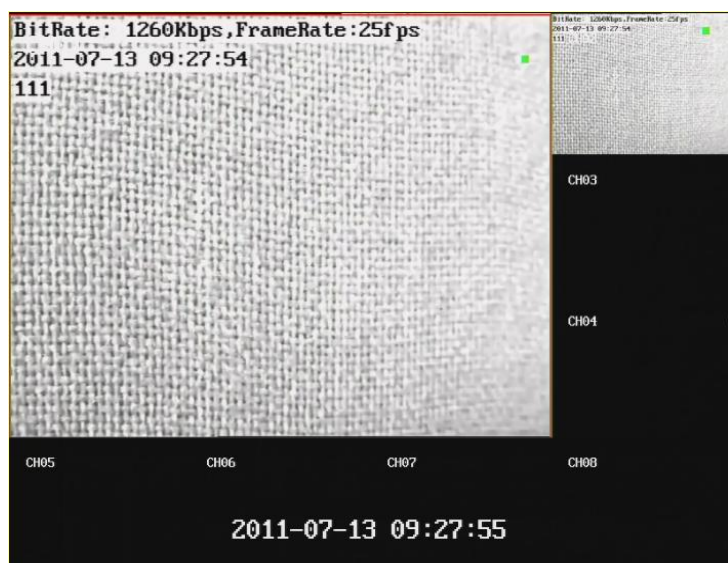
Then, you can right-click to display the system menu, or use the remote control and front panel to perform operations.



Tip: Both the default system administrator username and password is “admin”.

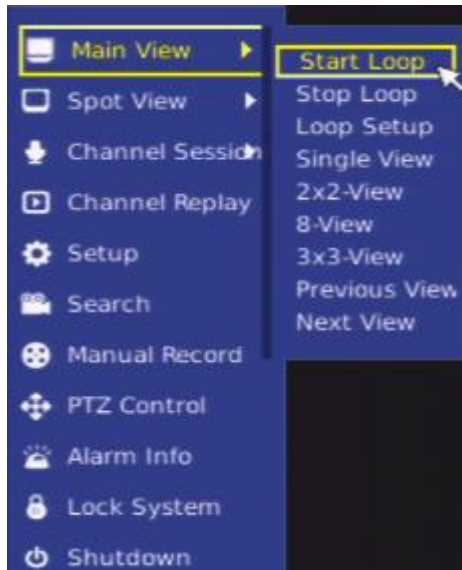
Preview interface:

After the device completely starts up, the preview interface appears, as shown in the right diagram:



2.2 Preview Operation

Right-click on the preview interface, and select main menu to enter the interface as shown



Name	Description
Main Output/auxiliary Output	Select the main output interface or auxiliary output interface
Start Sequence	Enter the automatic sequence switching status
Stop Sequence	Quit the automatic sequence switching status
Sequence Setting	Enter the sequence setup menu of the main interface or auxiliary interface
Single View	Display a single view
2x2-Views	Display 4 views by splitting the screen
8-Views	Display 8 views by splitting the screen
3 x 3-Views	Display 9 views by splitting the screen
Previous View	Go to the previous screen
Next View	Go to the next screen



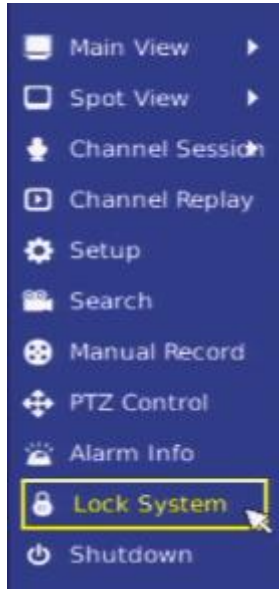
Tips:

1. The menu is not displayed for the auxiliary output interface.
2. To use the “Start Sequence” menu item, please complete sequence settings beforehand.

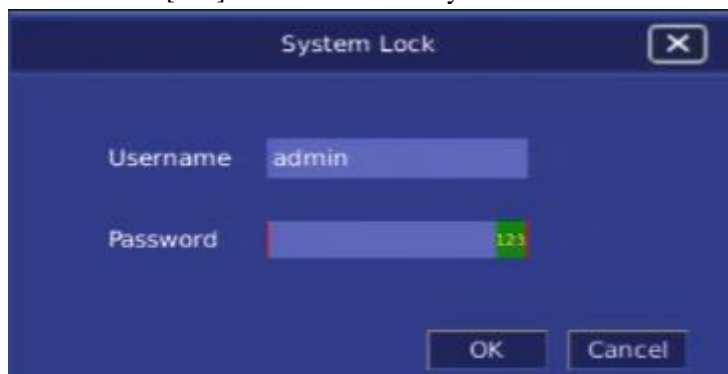
2.3 Lock System

Steps:

1. Right-click on the preview interface, and select “Lock System”:



2. The “Lock System” dialog box pops up. Enter the administrator username and password, and then click the [OK] button to lock the system.



Tip: It is allowed to lock the system only by the current user.

Chapter 3

Video Recording

3.1 Settings before Video Recording

Before configuration

Before you configure encoding parameters, confirm that the harddisk has been installed in the device and formatted. After format, there should be at least 1 piece reading and writing disk, to make redundancy recording, please make sure at least 1 piece redundancy disk.

Path:

Right-click main menu --> “SysConfigure” --> “Storage”



- If the harddisk is not installed, please install and format it.

Note: The status of the harddisk that can operate normally is displayed as “Writable”、“Redundancy” or “Read”.

Please set the same frame rate and frame interval before recording (1 key frame per second), so that the playback time is normal.

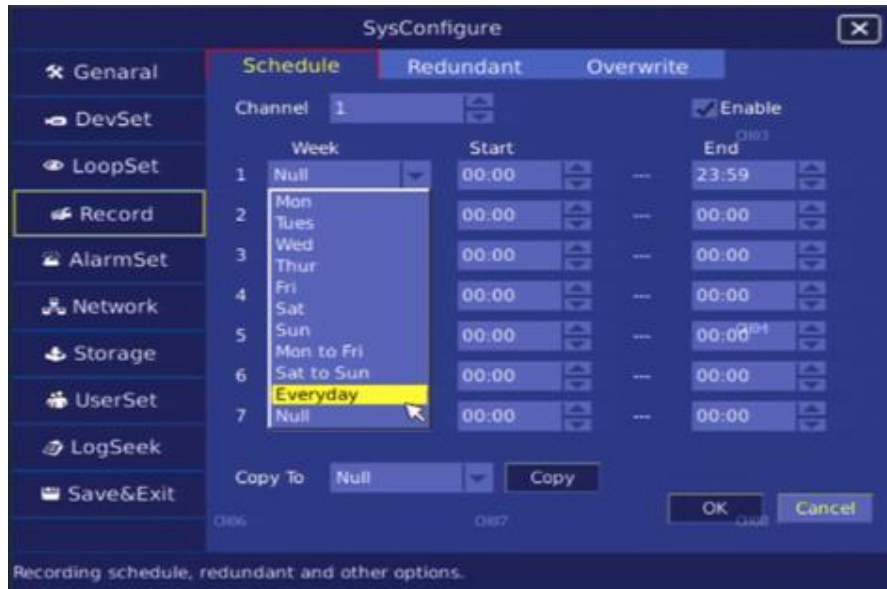
3.2 Scheduled Video Recording

Step 1: Enter the “Record” tab of the record configuration menu.

Path:

Right-click main menu --> “SysConfigure”

Select the “Record” tab.



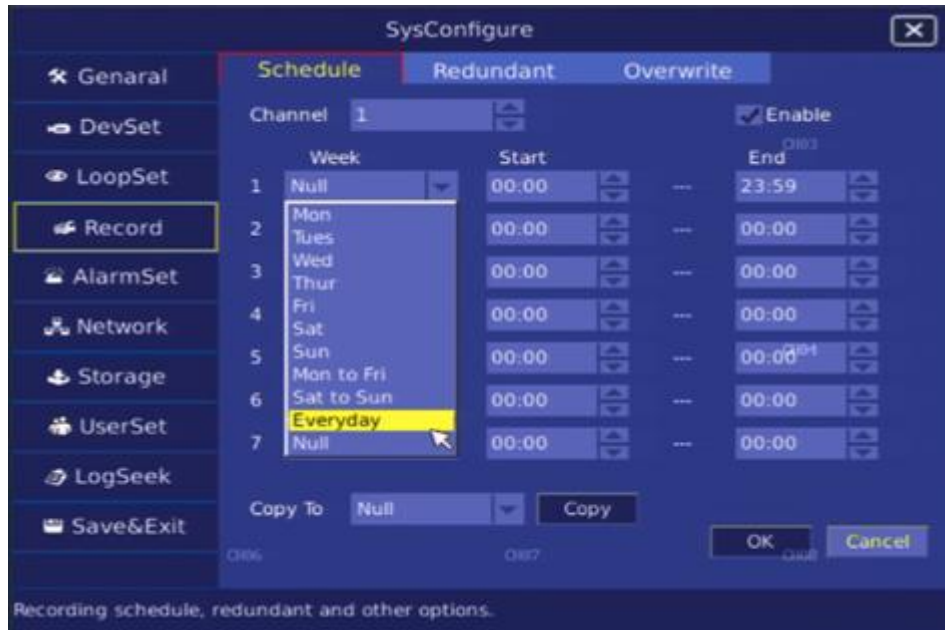
Step 2: Set the video recording channel and video recording schedule.

Select the video recording channel and whether to enable video recording.

Select “Schedule”. Click “Week” dropdown box to choose everyday, or some day in a week

Double-click the “Start” and “End” columns and set the responding time segment.

Click [OK] to complete video recording setting for this channel. To set scheduled video recording for other channels, please repeat Steps 1 and 2. To configure other channels consistent with this channel, please go to Step 3.

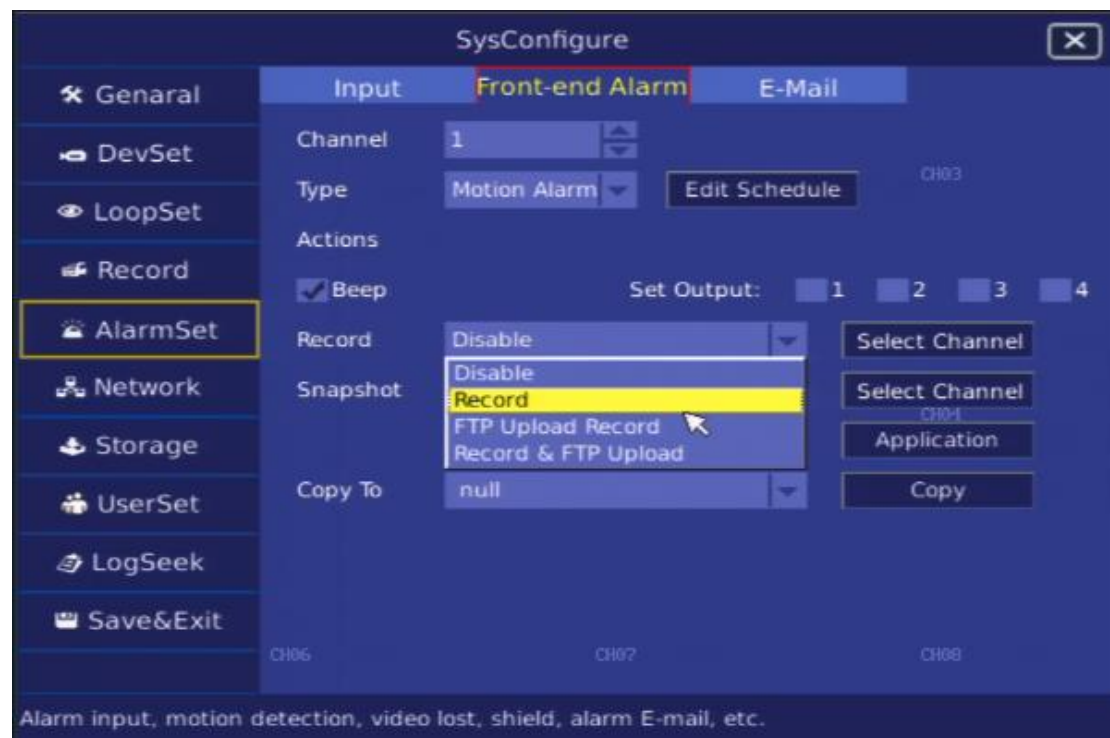


Step 3: This channel is set to the common video recording status for 7*24 hours.

To copy setting of this channel to other channels, click the dropdown box to the right of “Copy To”, select related channels, and then click [OK].

3.3 Video Recording of Motion Detection

Step 1. “SysConfigure”→”AlarmSet”→”Front-end Alarm”, choose channel.



Step 2: Set the target channel and the channel of responding video recording.

Select the channel (in the range of 1~8) for motion detection and the responding channel.

Step 3: Set the motion detection.

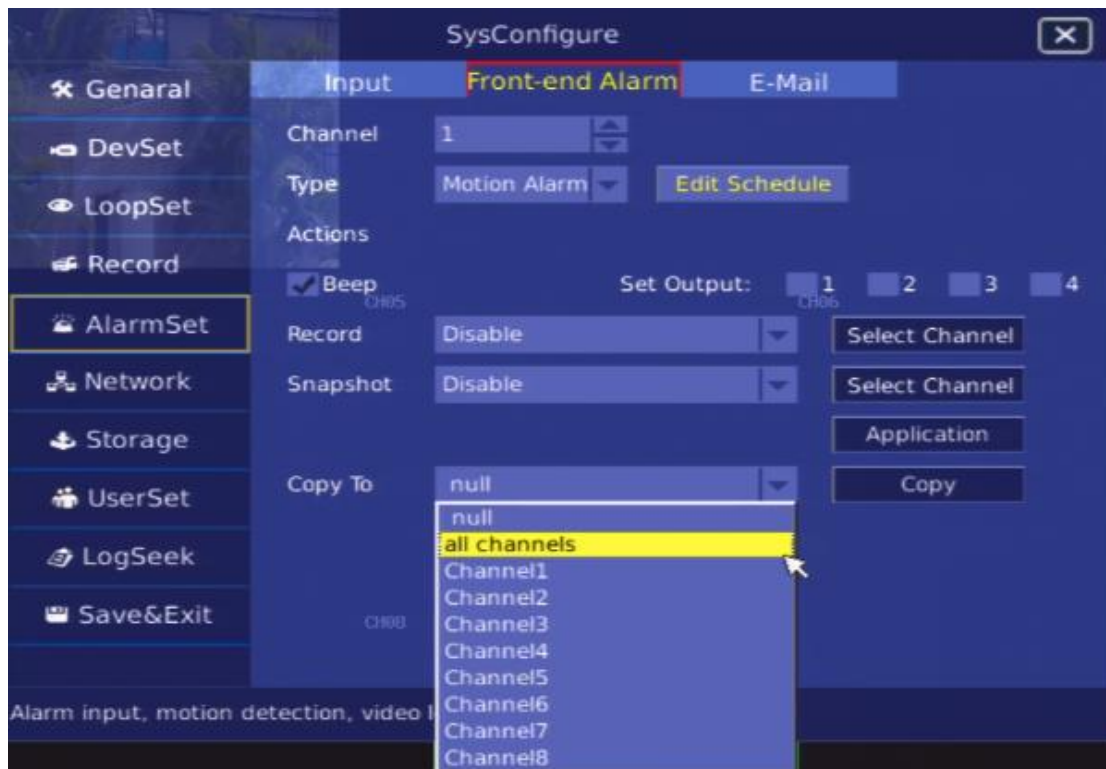
Enter the “Front-end Alarm” to set the sensitivity (1-99), enable the motion detection, detection area and schedule. When the front device triggers the alarm, the NVR starts recording.



Step 4: Copy the setting of this channel to other channels.

If the configuration of another channel or all the other channels is consistent with this channel,

select “Copy” to copy its configuration to the channel or all the other channels.



Tips:

1. You can select “Record”, “FTP Upload Record” or “Record and FTP Upload Record” from the “Responding channel” dropdown box.

3.4 Shield Alarm

Step 1: “SysConfigure”→”AlarmSet”→”Front-end Alarm”,

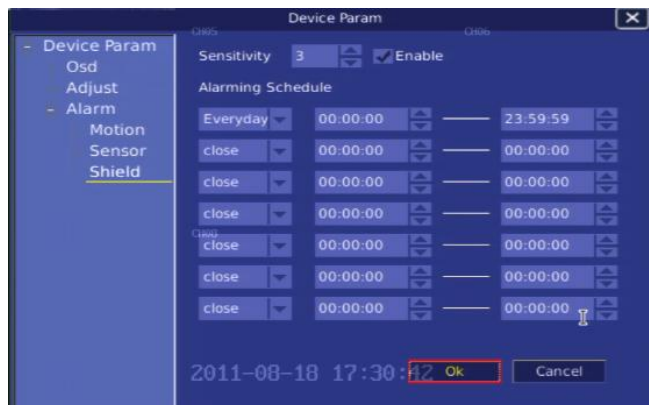
Step 2: Set the target channel and the channel of responding video recording.

Select the channel (in the range of 1~8) for shield alarm; Select the responding channel from the “Responding” area.



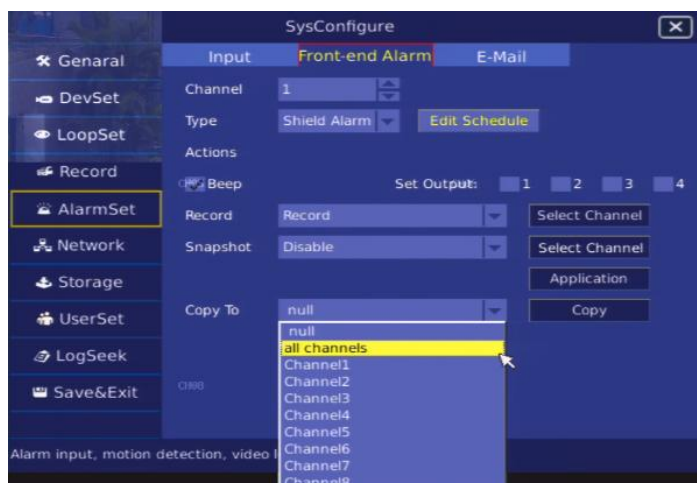
Step 3. Set shield alarm

Enable shield alarm, sensitivity and alarm schedule



Step 4: Copy the setting of this channel to other channels.

If the configuration of another channel or all the other channels is consistent with this channel, select “Copy To” to copy its configuration to the channel or all the other channels



3.5 Sensor Alarm

Step 1. Right-click main menu--> “SysConfigure” --> “Front-end Alarm”

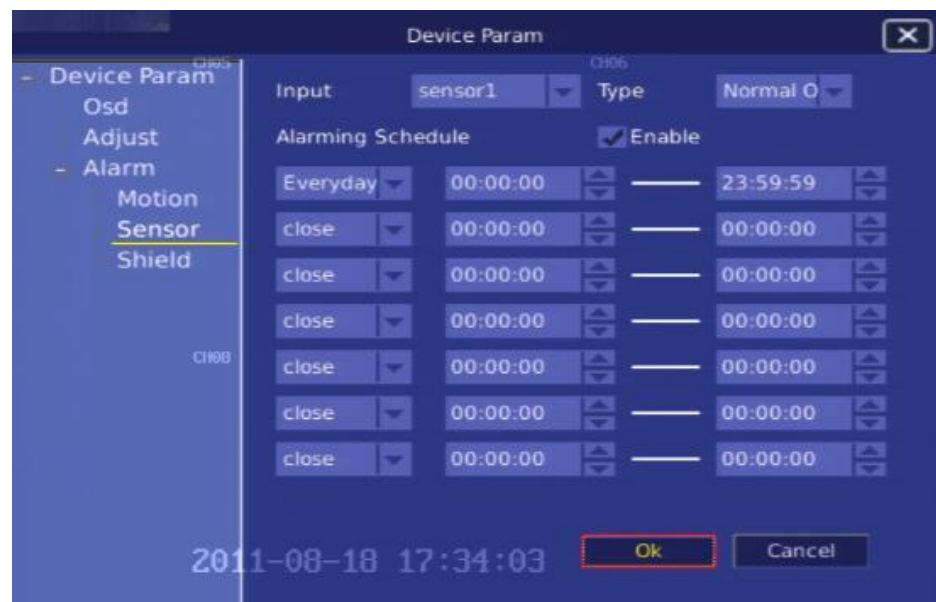


Step 2. Set the target channel and the channel of responding video recording.

Select the channel (in the range of 1~8) for sensor alarm and Select the responding channel from the responding channel

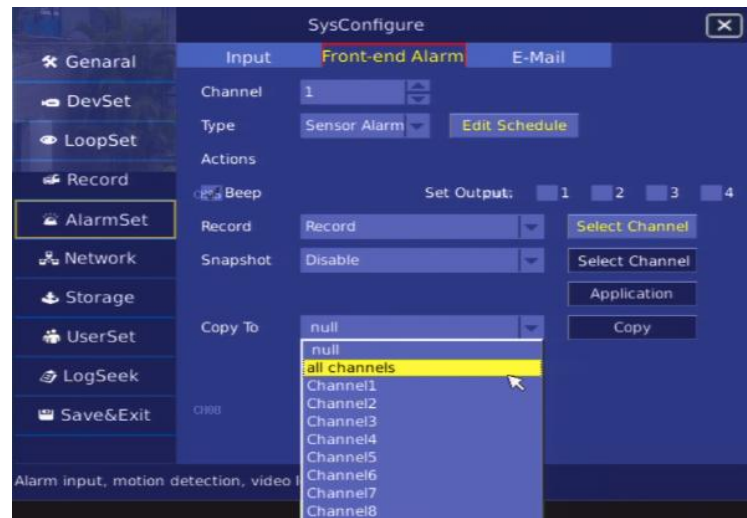
Step 3. Set sensor alarm.

Enable the sensor alarm in “Front-end Alarm”, choose sensor input, type and schedule.



Step 4: Copy the setting of this channel to other channels.

If the configuration of another channel or all the other channels is consistent with this channel, select “Copy To” to copy its configuration to the channel or all the other channel



3.6 Manual Video Recording

Step 1: Enter the “Manual Record” interface by following the path below:

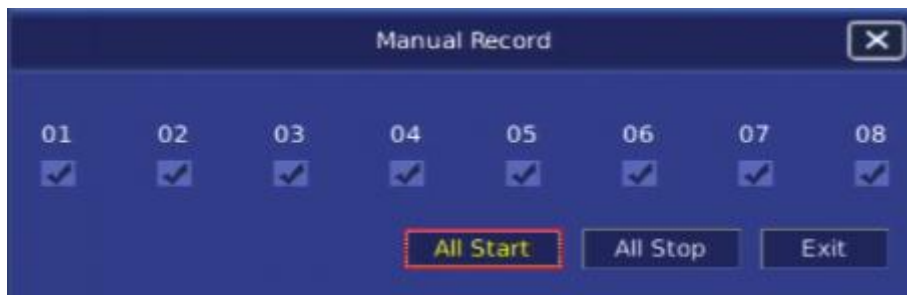
Right-click main menu --> “Manual Record”



Step 2: Select the channel for manual video recording

On the “Manual Record” interface, start or stop manual video recording for channels.

You can select one or more channels, or click [All Start] or [All Stop].



Chapter 4

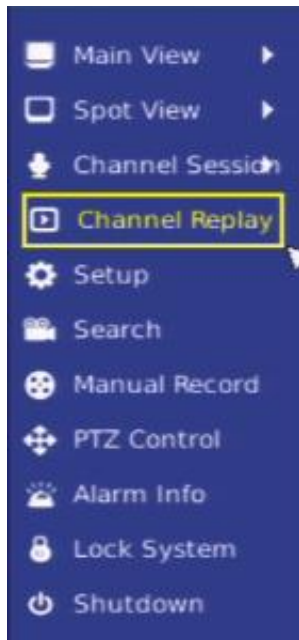
Playback

4.1 Channel Playback

Playback by time for certain channel, it doesn't work under loop

Operation:

Method: Move the mouse to the channel, click channel to playback



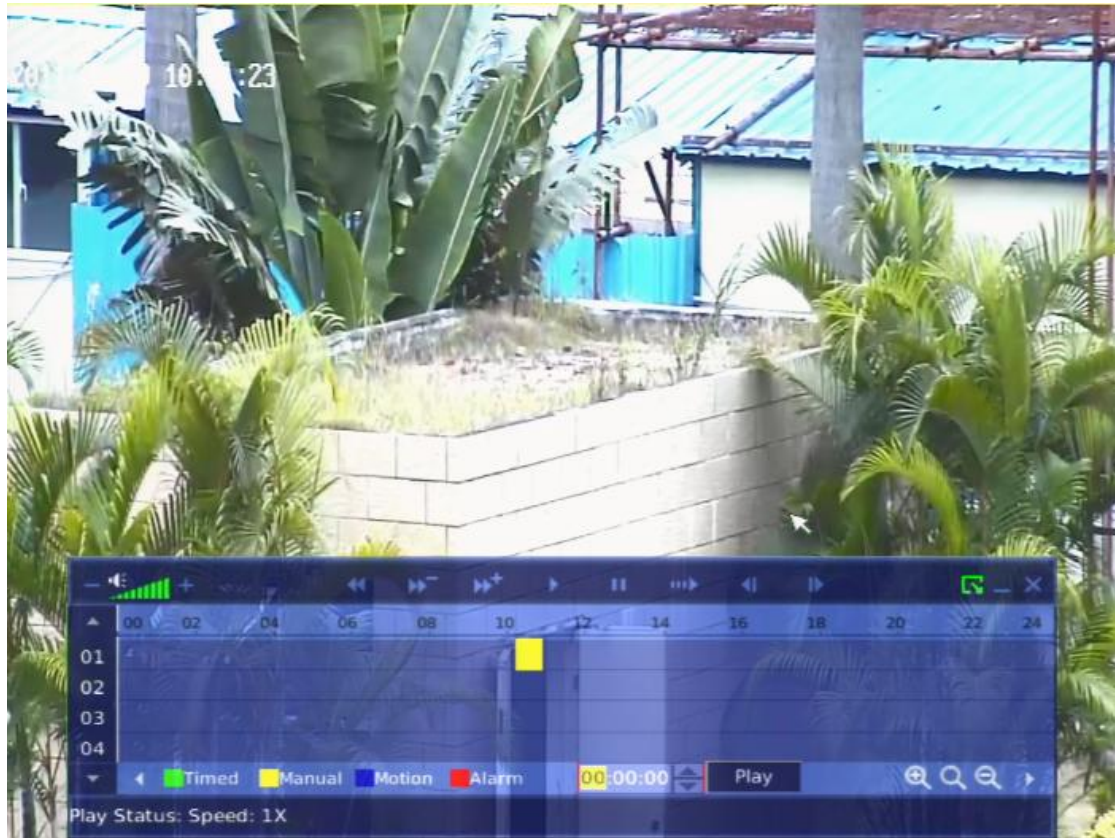
Playback interface: Control the playback via the playback tool.






Button	Function	Button	Function	Button	Function
	ESC		Hide menu		Search recording
	Volume up		Volume down		Speed down
	Speed up		Play		Pause
	Single frame play		Previous frame		Next frame
	Backup play				

Search current day video for channel

Click to search recording for the current day, use mouse to move the time line, click Play to playback the video



Use the following tool bar to control the time line

Button	Function		Button	Function		Button	Function
	Zoom in time line			Default time line			Zoom out time line

4.2 Playback by Time

Description

Playback by time

Operation method

Steps:

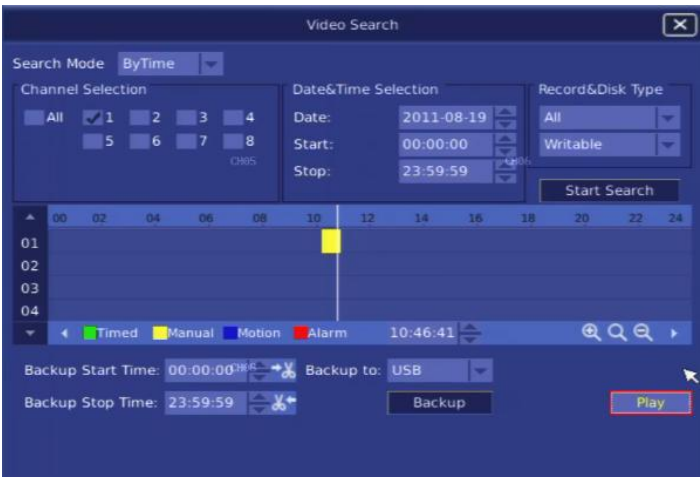
1. Right-click main menu --> “Search”

Set the search condition: Time, channel, date, record type, start time and end time from

Tip: support 8*D1, 1*1080P+1*D1 or 1*720P+5*D1 playback simultaneously

2. Click the [Search] button. The record of the responding time segment will be displayed, as shown in the right diagram:

3. Move the time line and click “Play” to playback via mouse or setting the time.



Search interface:















Button	Function	Button	Function	Button	Function
	Cutting video.		Cutting video over.		Time line reduce display.
	Zoom in time line.		Time line recover display.		

You

can use the following tools to operate.

Playback interface:

You can control the playback process using the playback toolbar in the lower part of the interface.

Button	Function		Button	Function		Button	Function	
	ESC			Hide menu			Search recording	
	Volume up			Volume down			Speed down	
	Speed up			Play			Pause	
	Single frame play			Previous frame			Next frame	
	Backup play			Playback time				

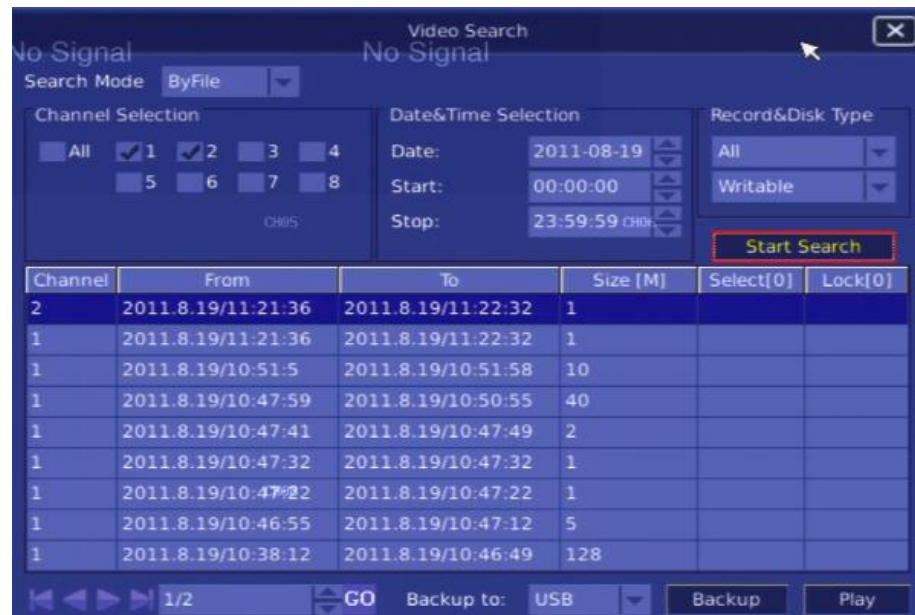
4.3 Playback by File

Description

Playback by files

Operation method

Steps:



Right-click main menu --> "Video Search"

1. Set the search condition: Select "Files" for Search.

Select channel, date, record type, harddisk type, start time and end time.

2. Click the [Search] button. The record satisfied the condition will be displayed,

3. Use mouse to choose the record files, or lock the record file, the locking files can not be covered. You can choose at most 9 record files to play.















3. Click "Play" to play it back.

Playback interface:

You can control the playback process using the playback toolbar in the lower part of the interface.





Button	Function		Button	Function		Button	Function
	ESC			Hide menu			Search recording
	Volume up			Volume down			Speed down
	Speed up			Play			Pause
	Single frame play			Previous frame			Next frame
	Previous file play			Next file play			

Chapter 5

Backup

5.1 Backup Using USB Interface

Setting method:

Search backup by time

Path: Right-click main menu --> “Search”


Step 1: Search the responding files according to your setting.

Step 2: Use the cutting tool under the time line to choose the record which need to backup

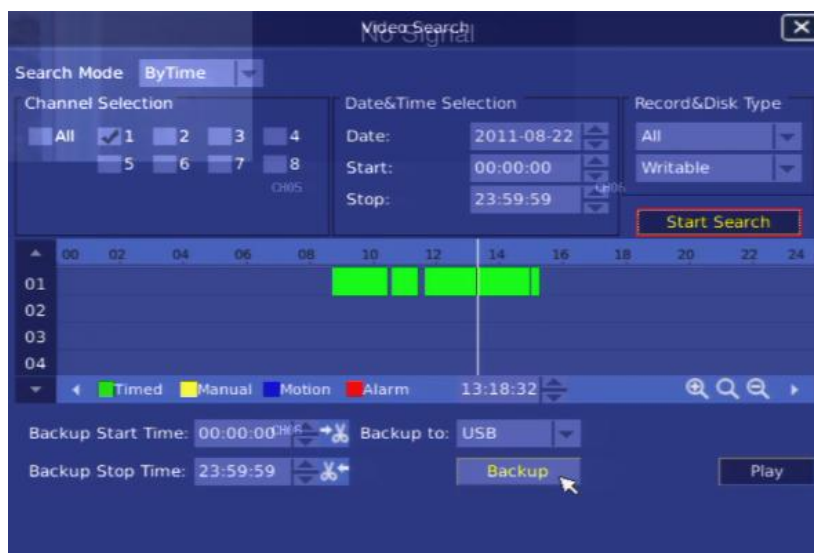
Step 3: Choose to backup to USB, and click”Backup”



Tips:

When you backup to USB, please make sure the NVR has recognized the USB device. If yes, there will display  on the left bottom of the image.

There will be tips when failing or succeeding back-up.



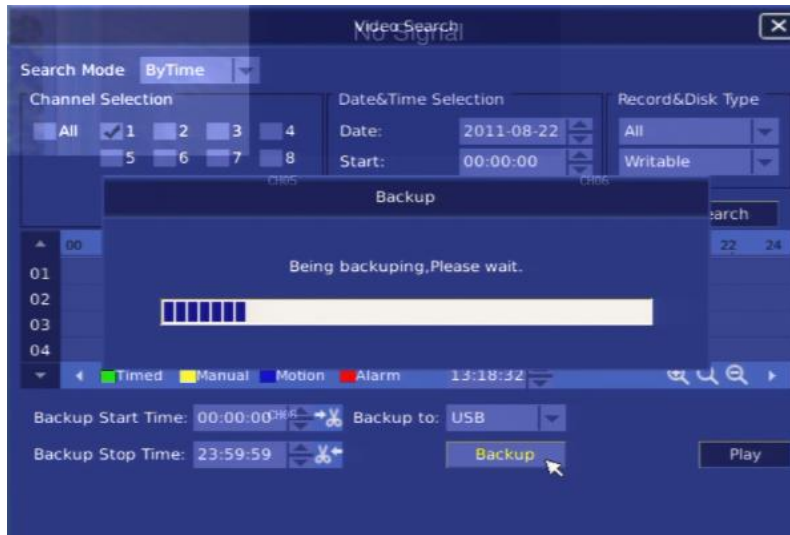
Search backup by file

Path: Right-click main menu --> “Search”

Step 1: Search the responding files according to your setting.

Step 2. Select the file


Step 3: Select “USB Disk” from the “Backup” dropdown box. Click “Backup”



Tips:

To confirm a backup file, select this file, and then click [Play] to play the video record.

In the case of search by file, “Y” will be displayed at the “Select” column for the selected file. The files are no more than 9.

When you backup to USB, please make sure the NVR has recognized the USB device. If yes, there will display  on the left bottom of the image.

There will be tips when failing or succeeding back-up.

Chapter 6

Alarm

6.1 Detector Alarm

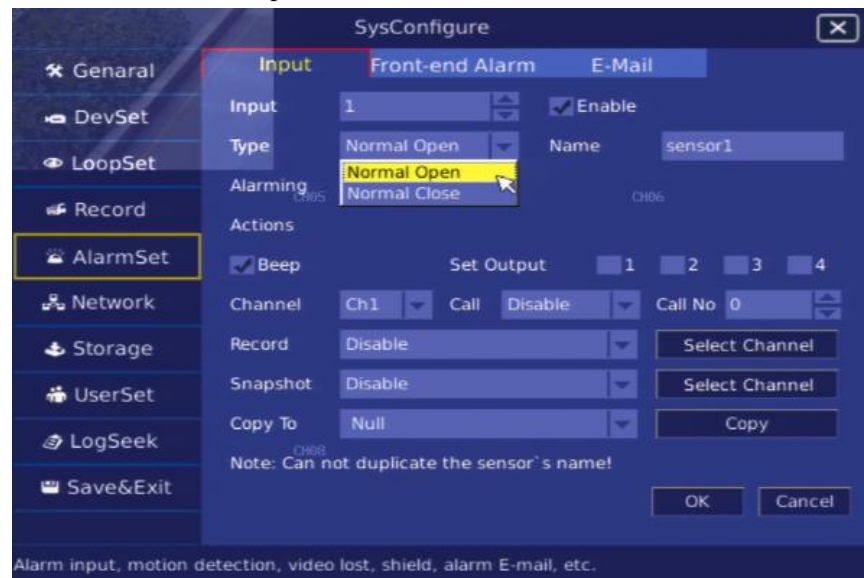
Detector defense

Step 1: Select the detector and set parameters.

Path:

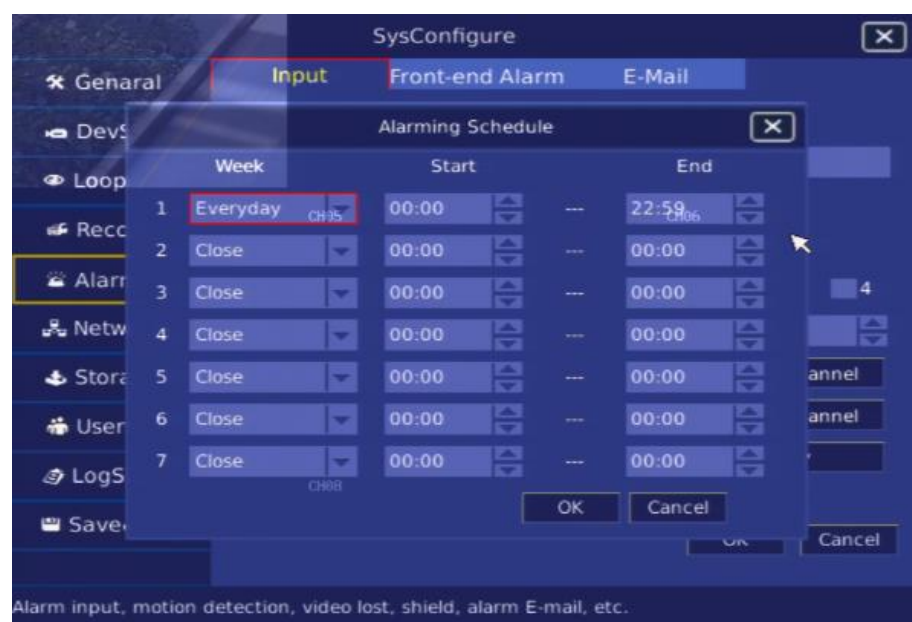
Right-click main menu --> "SysConfigure" --> "Alarm"

Select the "Input" tab, select the detector, choose start checking, edit the detector name, choose the status to be "Normal Open/Close"



Step 2: Set Alarming Schedule

Click the **Edit Schedule** button to popup a time list as the right picture, setup the time and click OK to exit this step



Step 3 Select the responding mode.

Methods:

Set the responding buzzer, set the responding alarm output

Set this responding channel to invoke preset position or automatic cruise.

Note: You can select the preset position and cruise track number from the range 1 ~ 255.

Set this channel to respond, i.e. set “Record”, “FTP Upload Record” or “Record and FTP Upload” for this channel.

Set this channel to respond, i.e. set “Respond Snapshot”, “FTP Upload Snapshot” or “Snapshot and FTP Upload” for this channel.

Step 4: If the settings of other detectors are inconsistent with the detector just set by you, you can select to set these detectors with different settings. To make these detectors consistent with the setting you just completed, just select them from the “Copy ” dropdown box and copy the setting to them.



Tips:

1. You can enter a detector name easy to remember.
2. You can select “Everyday”, “Mon to Fri”, “Sat to Sun” or one day in a week as the schedule.
3. Detector name can not copy.
4. FTP upload snapshots and recordings will not be stored to the local device. Choosing the responding mode to record, capture and FTP upload could upload the snapshots and recordings to the FTP and store to the local device.

6.2 Motion detection Alarm

Setting:

Path:

Right-click main menu --> “SysConfigure” --> “Alarm”, select Front-end Alarm

Step 1: Choose the channel you want set the motion detection; choose the alarm type to be “Motion Detection”



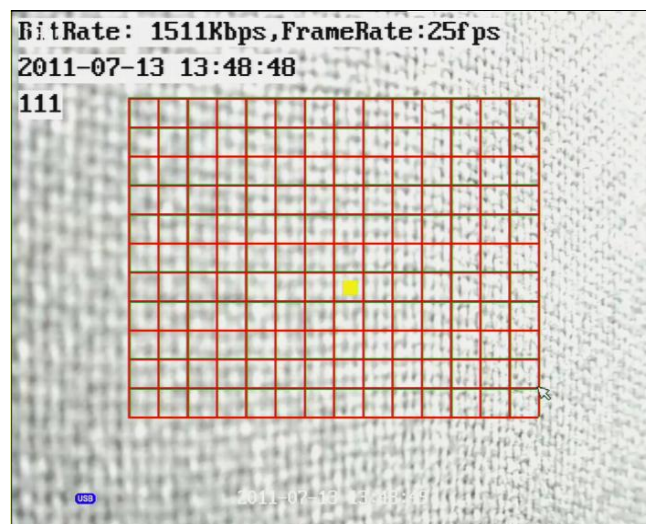
Step 2: Enable the motion detection

Click to enter the setting, set the sensitivity (1-99), and then enable the motion detection

Note: The larger the sensitivity is, the more sensitive it is.

Step 3: Set the detection area

Click the “Set area” of “Enter Setup”, it displays the image of the channel as in the right picture: Select the motion detection area, the area will display small red blockage. Press the left button of the mouse and drag to draw a rectangle area, multi-area is acceptable. Double choose at the chosen area could cancel this area. Right click to exit the setting.



Step 4. Set the detection time

Set the defense time as the right picture



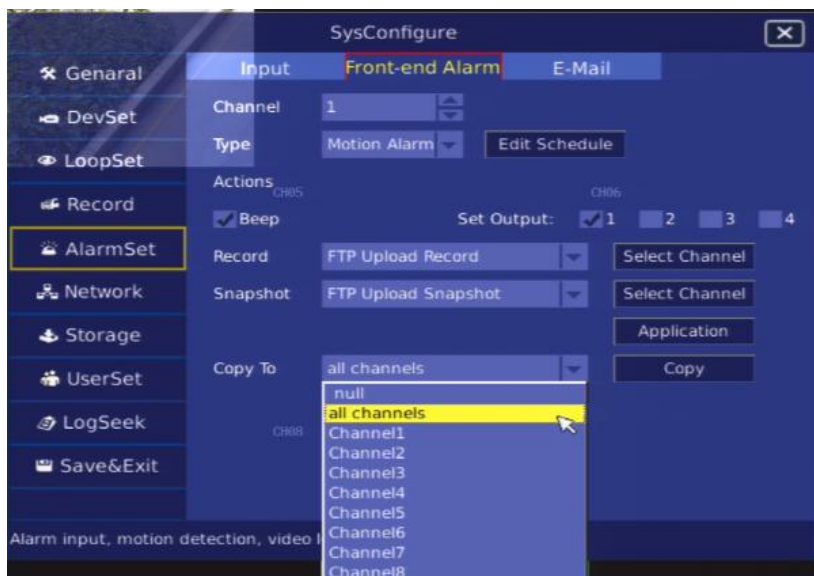
Step 5 Select the responding mode.

Methods:

1. Set the responding buzzer, set the responding alarm output
2. Set this channel to respond to “Record”, “FTP Upload Record” or “Record and FTP Upload” .
3. Set this channel to respond to “Snapshot”, “FTP Upload Snapshot” or “Snapshot and FTP Upload”.

Step 6: Copy the setting of this channel to other channels.

If the configuration of the other channels is consistent with this channel, you can copy its configuration to the other channels.



Tips:

1. You can select “Everyday”, “Mon to Fri”, “Sat to Sun” or one day in a week as the schedule.
2. FTP upload snapshots and recording will not be stored to the local device. Choosing the responding mode to record, capture and FTP upload could upload the snapshots and recordings to the FTP and store to the local device.

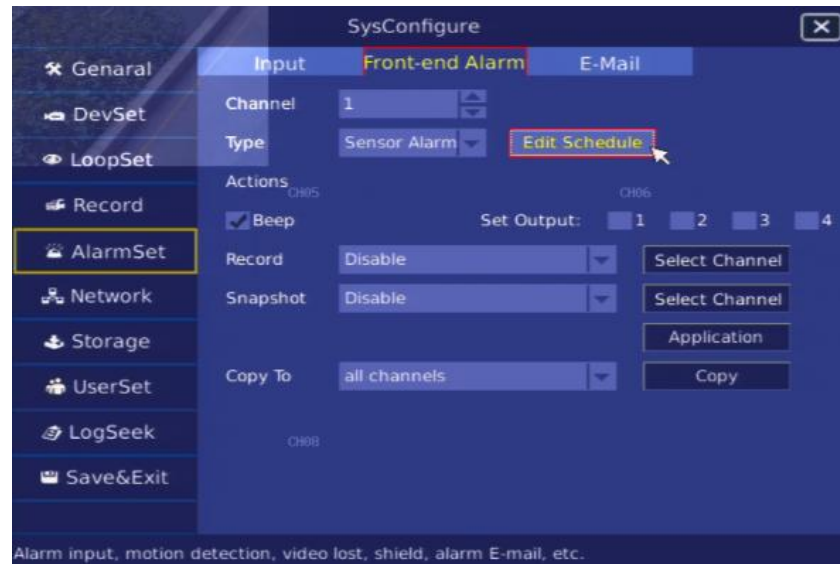
6.3 Detector alarm

Setting:

Path:

Right-click main menu--> “SysConfigure” --> “Alarm”

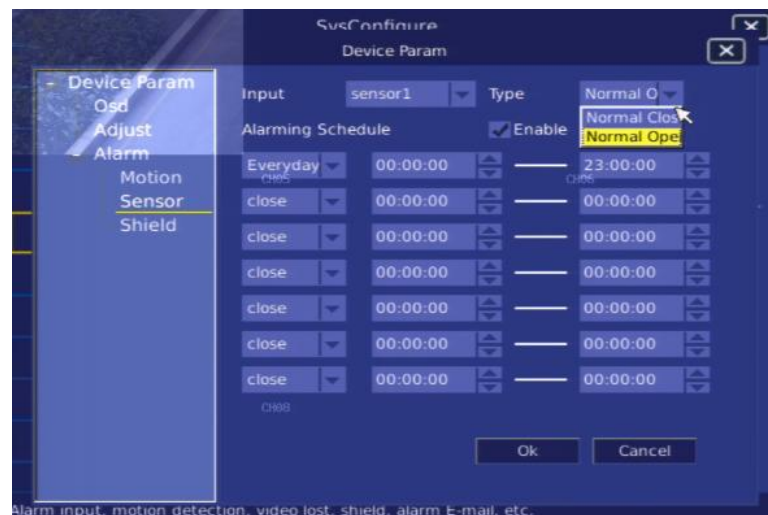
Select the “Front-end Alarm” tab.



Step 1: Choose the channel; choose the alarm type to be “Detector Alarm”

Step 2: Setting

Click setting to popup the interface as right picture, select “input”, such as “Detector 1”, set the type to be, Enable the detector alarm, set the time schedule to be “one day in a week”, “Everyday”, “Mon to Fri”, “Sat to Sun” or any others.



Step 3 Select the responding mode.

Methods:

Set the responding buzzer, set the responding alarm output

2. Set this channel to respond, i.e. set “Record”, “FTP Upload Record” or “Record and FTP

Upload” for this channel.

Step 4: Copy the setting of this channel to other channels.

If the configuration of the other channels is consistent with this channel, you can copy its configuration to the other channels.



Tips:

1. You can select “Everyday”, “Mon to Fri”, “Sat to Sun” or one day in a week as the schedule.
2. FTP upload recording will not be stored to the local device. Choosing the responding mode to record, FTP upload could upload the record and recordings to the FTP and store to the local device.

6.4 Shield Alarm

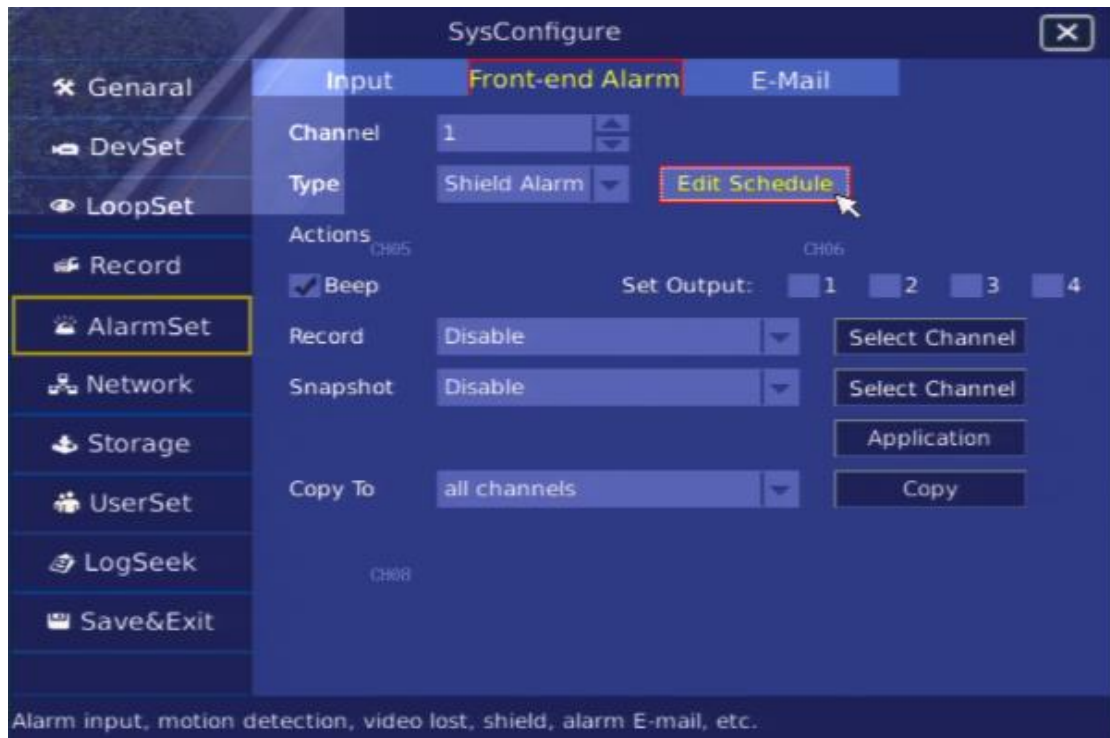
Setting:

Path:

Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Alarm”

Select the “Front-end Alarm” tab.

Step 1: Choose the channel; choose the type to be “Shield Alarm”



Step 2: Front-end Alarm

Click to the “Front-end Alarm” to popup the interface as the right picture, set the sensitivity(1-5), enable the alarm time schedule to be “one day in a week”, “Everyday”, “Mon to Fri”, “Sat to Sun” or any others.



Step 3 Select the responding mode.

Methods:

Set the responding buzzer, set the responding alarm output

2. Set this channel to respond, i.e. set “Record”, “FTP Upload Record” or “Record and FTP Upload” for this channel.

Step 4: Copy the setting of this channel to other channels.

If the configuration of the other channels is consistent with this channel, you can copy its configuration to the other channels.



Tips:

1. You can select “Everyday”, “Mon to Fri”, “Sat to Sun” or one day in a week as the schedule.
2. FTP upload recording will not be stored to the local device. Choosing the responding mode to record, FTP upload could upload the record and recordings to the FTP and store to the local device.

6.5 Harddisk Alarm

Setting:

Set “No Disk Alarm”

Path: Right-click main menu --> “SysConfigure” --> “Storage” tab. Select responding buzzer and responding alarm output.

2. Set “Disk Full Alarm”

Path: Right-click main menu --> “SysConfigure” --> “Record ”, choose “Overwrite”, choose “Automatic Overwrite”, “Disk Full Alarm” and “Threshold Value. Then click the main menu--> “SysConfigure” --> “Storage”, choose “Harddisk alarm”, enable “Disk Full Alarm”, choose responding buzzer and responding alarm output.



Note: After enable the loop video, when the Harddisk reaches Threshold Value, device will delete the oldest video files which are not locked, please set the Threshold Value to be 2-99G.



3. Set the “Disk Error Alarm”

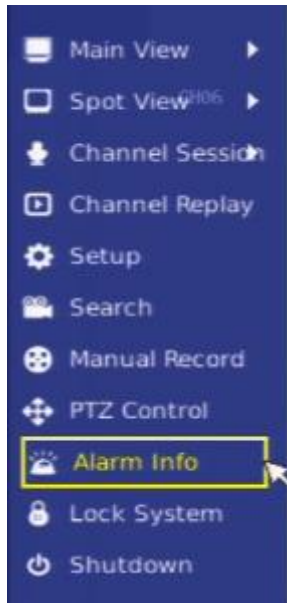
Path: Right-click main menu --> “SysConfigure” --> “Storage”, choose “Disk Error Alarm”, enable responding buzzer and responding alarm output.”





Note: Two conditions to trigger the alarm: 1. Harddisk can not be detected; 2 the bad sector of the Harddisk reach a certain level.

6.6 Alarm Info

Path:

Main Menu→ Alarm Info



Click  to change pages to check the current alarm info. Click  to clear current alarm and the responding buzzer and responding alarm output. Click  to refresh the latest alarm info. Click  to exit this interface.



6.7 Alarm Handling

Description

When an alarm is reported, you can warn through audio alarm (beep), responding video recording of alarm, responding snapshot of alarm, FTP uploading of record or snapshot, and sending of alarm EMAIL.

Audio alarm

When an alarm is reported, the device will warn by sending the “beep” sound.

Responding recording and snapshot of alarm

When an alarm is reported, you can set video recording/snapshot taking for this channel or a responding channel.

FTP loading of video record and snapshot taking

When an alarm is reported, the system supports FTP loading of video record/snapshot taking

Sending alarm EMAIL

Setting method:

Path:

Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Alarm”

Select the “MAIL” tab.

Step 1: Enable “Send E-mail When Alarm Raised”

Step 2: Input the E-mail server and E-mail server port

Step 3: Input Username and Password

Step 4: Input the sender’s name, address and recipient’s name & E-mail address. You could choose the priority of this E-mail (High, Middle, Low)

✖ Genaral

🔌 DevSet

👁 LoopSet

📁 Record

🔔 AlarmSet

🌐 Network

💾 Storage

👤 UserSet

🔍 LogSeek

💾 Save&Exit

SysConfigure

No Signal

Input

Front-end Alarm

E-Mail

☒ Send E-mail When Alarm Raised

Mail server

smtp.qq.com

Server Port

25

Username

123

CH05

Password

CH06

Sender

123

Address

123@qq.com

Recipient1

123

Address

123@qq.com

Recipient2

Address

Recipient3

Address

Priority

Middle

▼

CH08

OK

Cancel

Alarm input, motion detection, video lost, shield, alarm E-mail, etc.

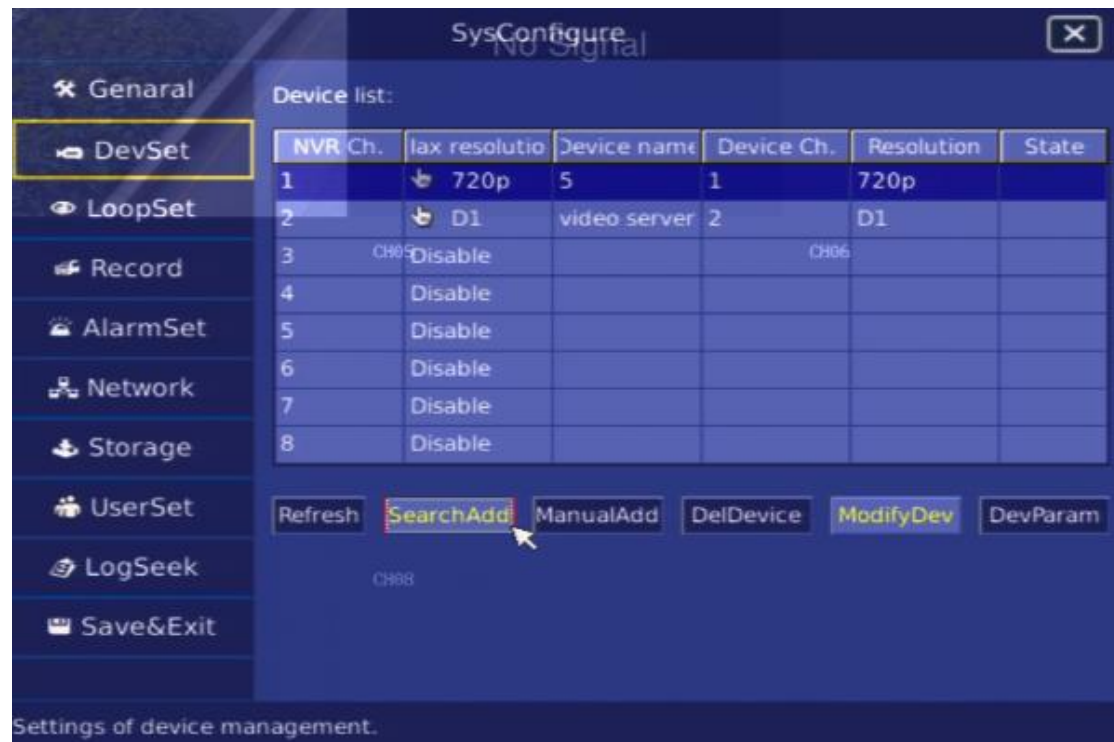
Chapter 7

Device Setting

7.1 Search Add

Path: Main Menu--> “Sys Configure” --> “DevSet” --> “SearchAdd”

Step 1. Choose channel and resolution in the dropdown list of the Max. Resolution.

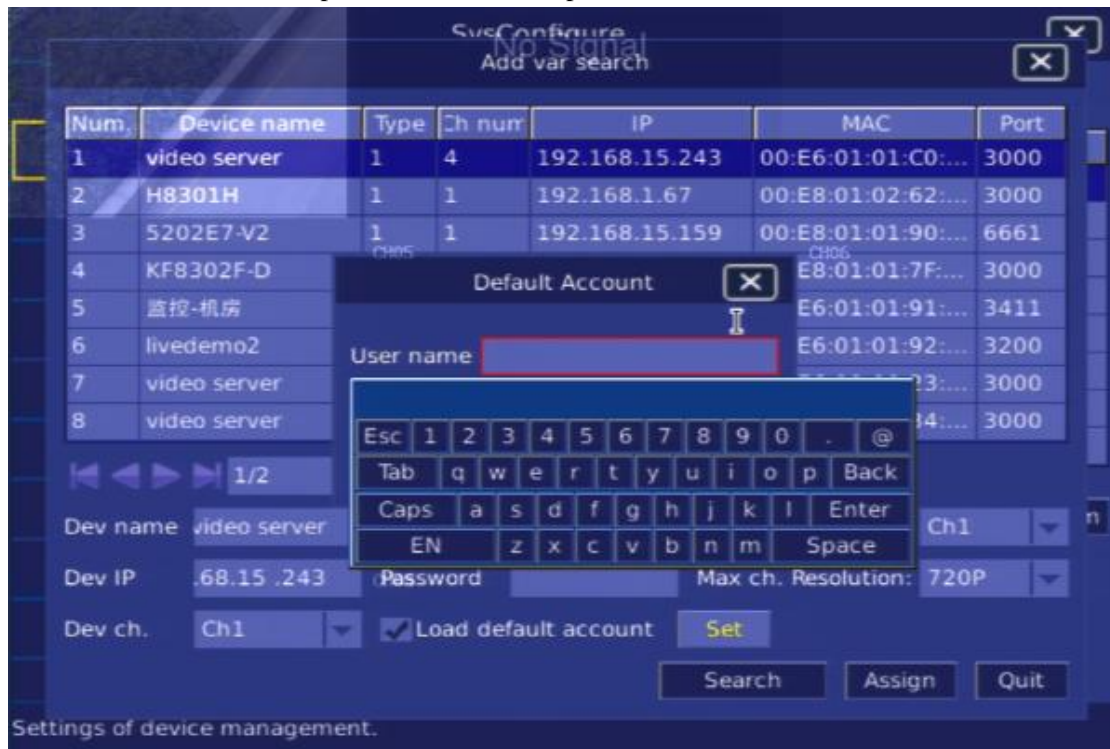


Step 2. Click **SearchAdd**, the IP cameras or network/IP video servers which are in the same LAN with the NVR will display in the Device list. Choose the device and choose channel.



Step 3. Configure username and password

Input the username and password in the edit box. Or load the default account and set to popup the default account interface, input the username and password.



Step 4. Click **Assign** and quit, the device list will display the device, the channel will display its video



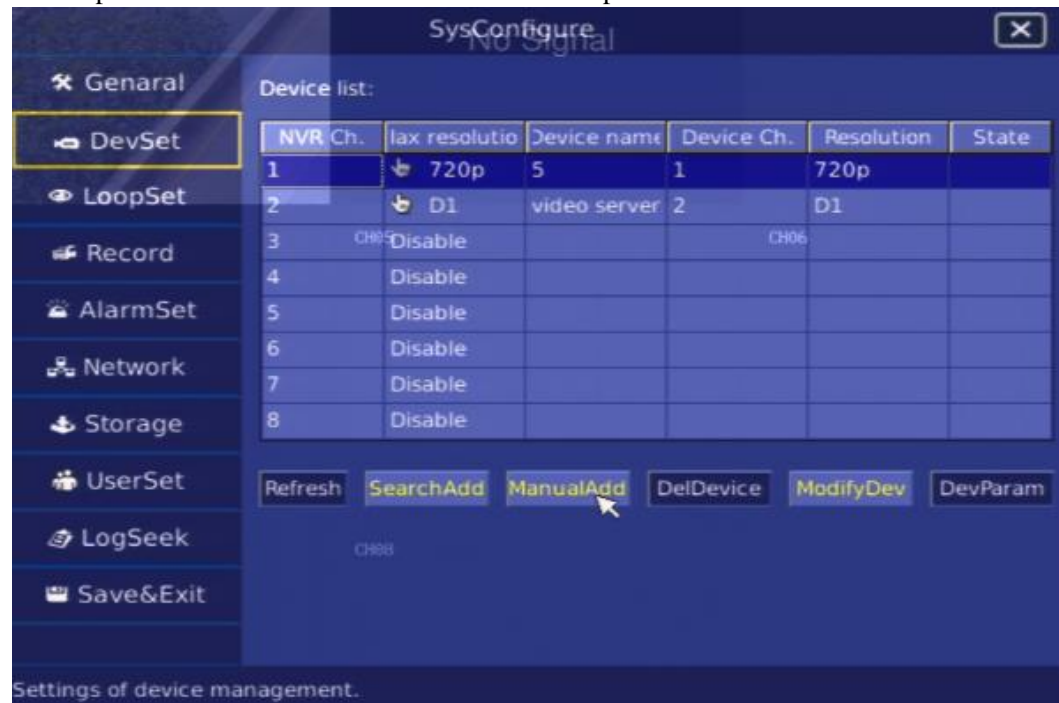
Tip:

1. After setting the default account, it won't be changed until rebooting the NVR, new default account should be set after rebooting.
2. If there isn't any video in the assigned channel, please check the username and password, check whether the assigned device and NVR is connected successfully.

7.2 Manual Add

Path: Main Menu--> “Sys Configure” --> “DevSet” --> “ManualAdd”

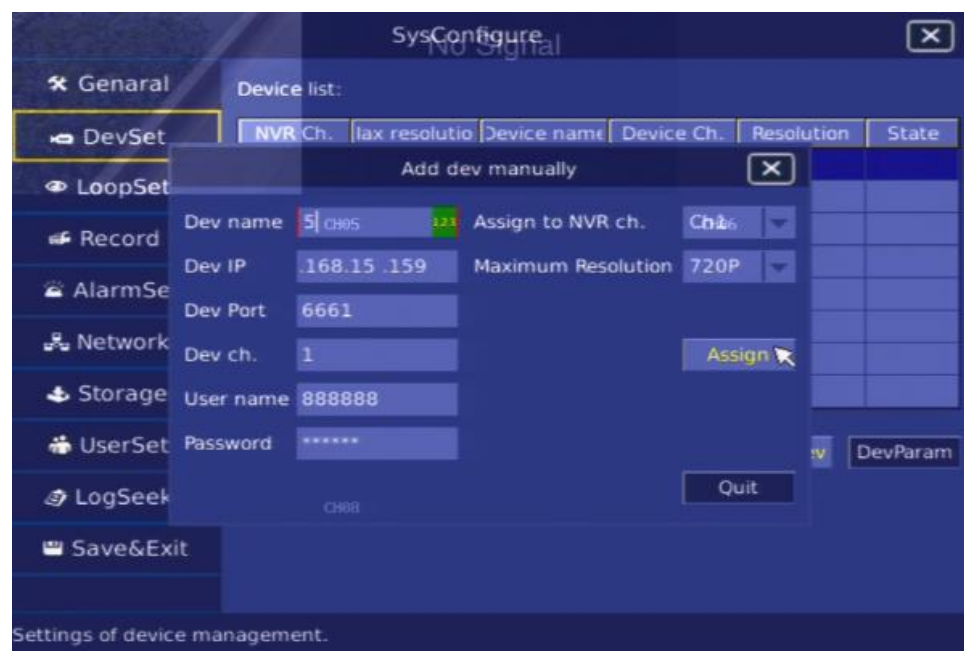
3. Step 1. Choose channel and resolution in the dropdown list of the Max. Resolution.



Step 2. Configure device name, device IP address, device port, device channel.

Step 3. Configure username and password

Step 4. Click **Assign** and quit, the device list will display the device, the channel will display its video

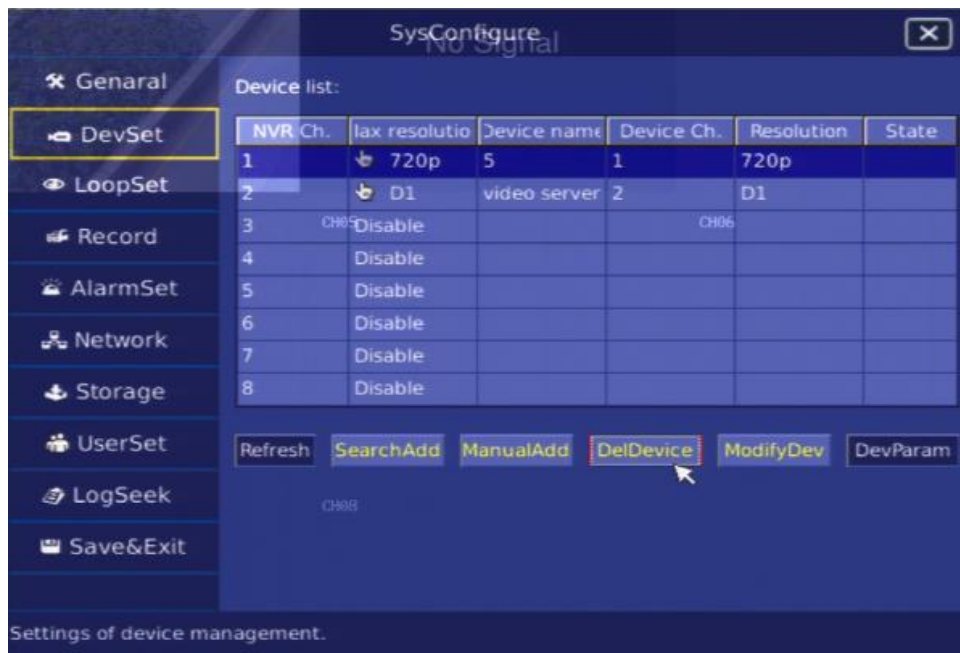


**Tip:**

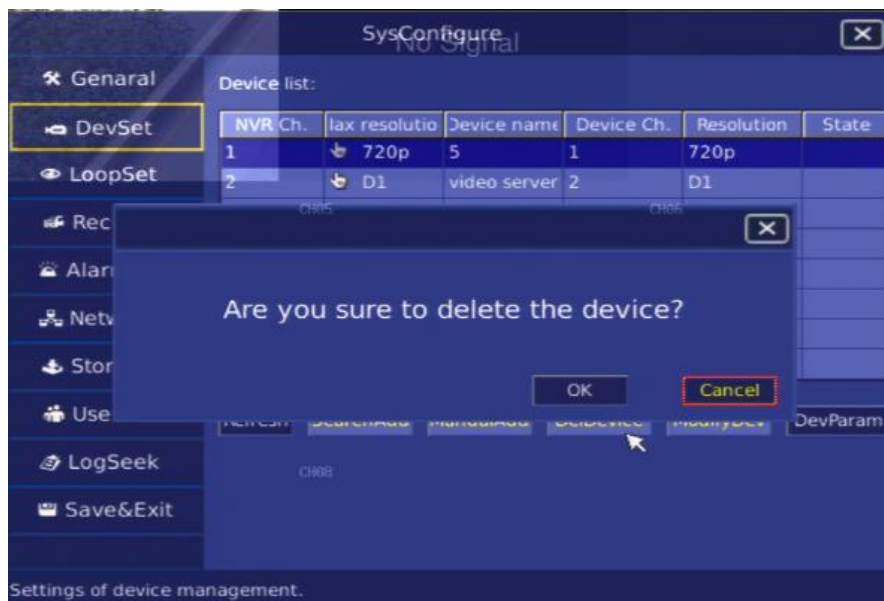
1. Device port is Data Port, the default port is 3000.
2. If there isn't any video in the assigned channel, please check the username and password, check whether the assigned device and NVR is connected successfully.
3. Device name could be NULL.

7.3 Delete Device

Path: Main Menu--> “Sys Configure” --> “DevSet”

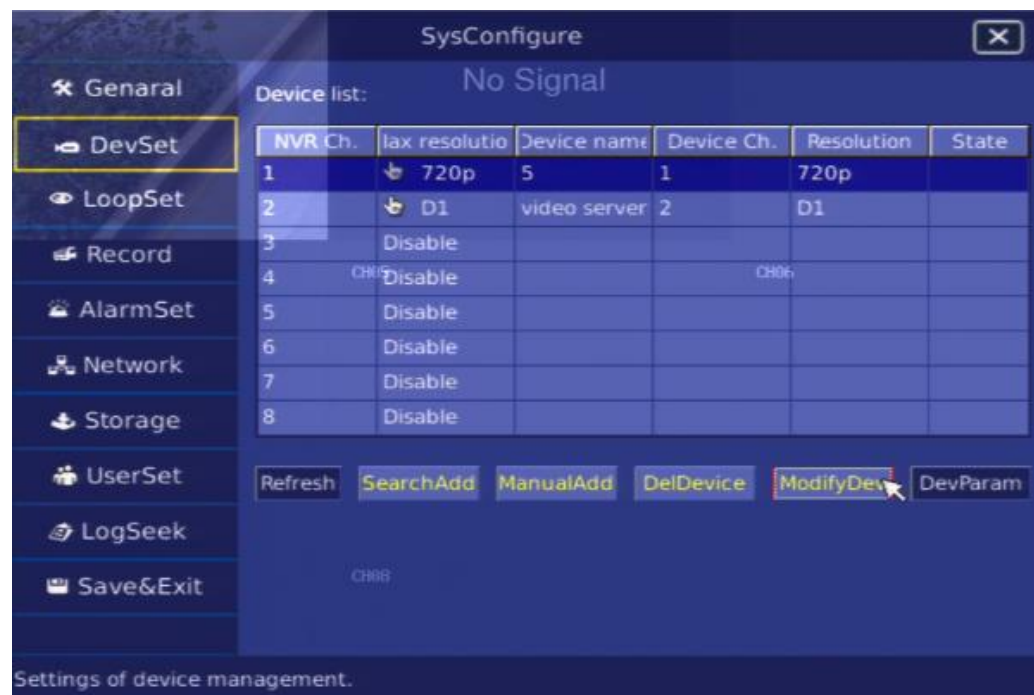


4. Choose the channel and click **DelDevice** to popup the tip, Click **OK** to delete the device.



7.4 Modify Device

Path: Main Menu--> “Sys Configure” --> “DevSet”



Step 1. Choose channel and click **ModifyDev** to popup the interface



Step 2. Configure device name, IP address, port and channel

Step 3. Configure username and password

Step 4. Click **Ok** to confirm the modification. Quit this interface to display the device, the channel will display its video.

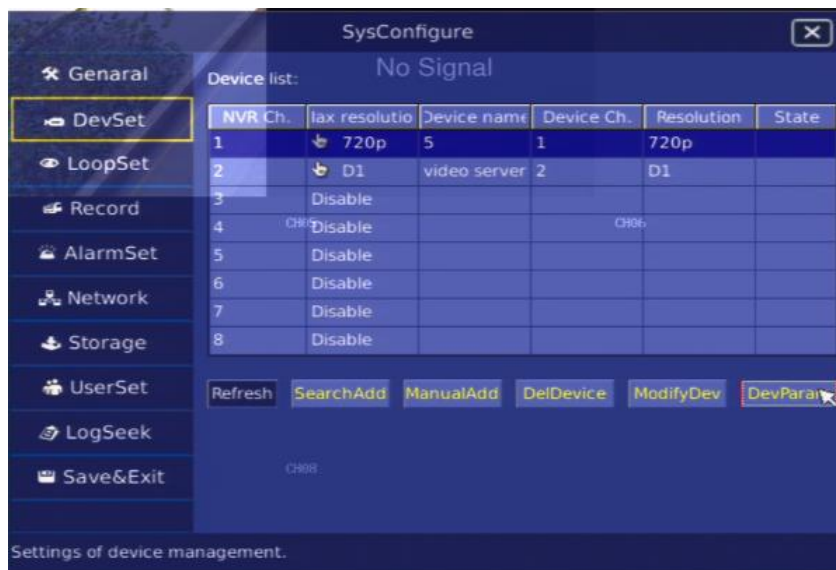


Tip:

1. Device port is Data Port, the default port is 3000.
2. If there isn't any video in the assigned channel, please check the username and password, check whether the assigned device and NVR is connected successfully.
3. Device name could be NULL.

7.5 OSD Configuration

Path: Main Menu--> “Sys Configure” --> “DevSet”



Step 1. Choose device, click **DevParam** to enter the setting interface, choose the OSD



Step 2. Time Format: enable Time OSD display or not, set the position X & Y

Step 3. Bit Rate: enable Bit Rate display or not, set the position X & Y

Step 4. Text 1, 2: set the context and position X & Y, click OK to confirm and quit, the info will display on the channel video.



Tip:

Please choose the format that the front-end device support, the it doesn't support, whatever you set the format, it doesn't work.

Position set, X 0~672, Y 0~544

7.6 Image Adjust

Path: Main Menu--> “Sys Configure” --> “DevSet”

Step 1. Choose device and click **Device Param**, choose Adjust



Step 2. Input the Brightness, Contrast, Saturation, Hue, Horizon Offset and Vertical Offset



Tip: Some devices doesn't support Vertical Offset

7.7 Front-end Alarm

Path: Main Menu--> “Sys Configure” --> “DevSet”

Click device and **Device Param**, enter the Alarm

7.7.1 Motion Detection

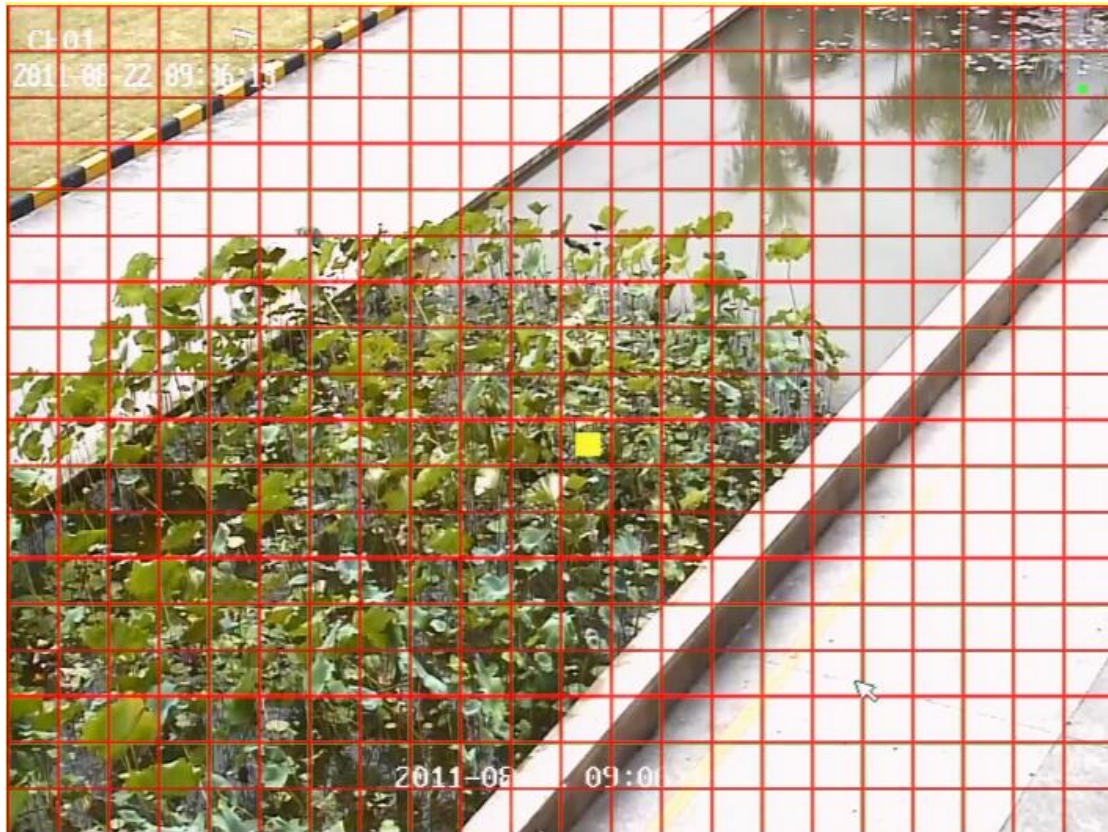
Choose Motion

Step 1. Set sensitivity



Step 2, Set motion detection area

Click **Enter Setup**, it displays the image of the channel as in the right picture: Select the motion detection area, the area will display small red blockage. Press the left button of the mouse and drag to draw a rectangle area, multi-area is acceptable. Double choose at the chosen area could cancel this area. Right click to exit the setting



Step 3. Set the Alarming Schedule, for "Everyday", "Mon to Fri", "Sat to Sun" or one day in a week

7.7.2 Sensor Alarm

Choose Sensor and input, such as sensor 1, set type to be “Normal Open” or “Normal Close”, Enable the alarm. Set the Alarming Schedule, for” Everyday”, “Mon to Fri”, “Sat to Sun” or one day in a week



Chapter 8

Network

8.1 Network General Settings

Setting method:

Path:

Right-click main menu --> “Setup” --> “Network”

Select the “General” tab.

1. You can view or edit the IP address, subnet mask, default gateway, DNS address, multicast address or MAC address of the device.
2. You can select to enable or disable DHCP and UPNP.
3. You can set the WEB port, data port and multicast port.



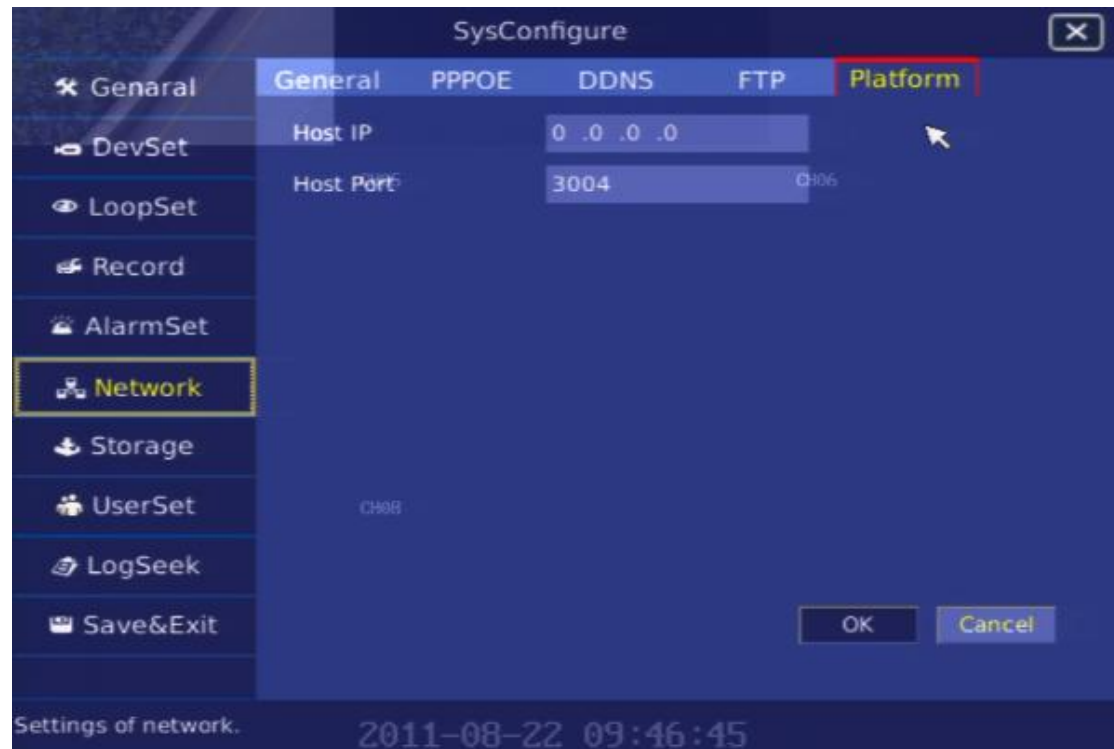
After all the settings are completed, click the [OK] button, save parameters and reboot NVR to take effect the modification.

8.2 Platform Parameters

Path: Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Network”

Select the “Platform” tab.

Set host IP and host port, save and reboot to take effect.



8.3 FTP

Setting method:

Path:

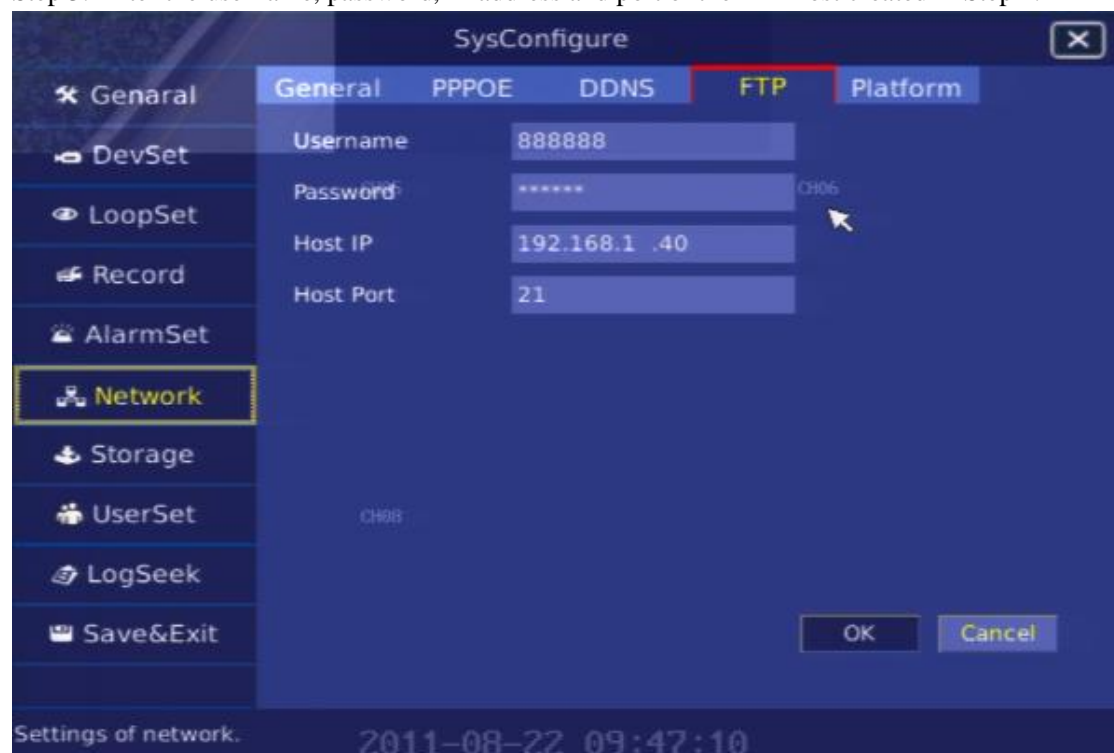
Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Network”

Select the “FTP” tab.

Step 1: Create an FTP host.

Step 2: Enter the FTP interface according to the above path.

Step 3: Enter the username, password, IP address and port of the FTP host created in Step 1.



8.4 PPPOE

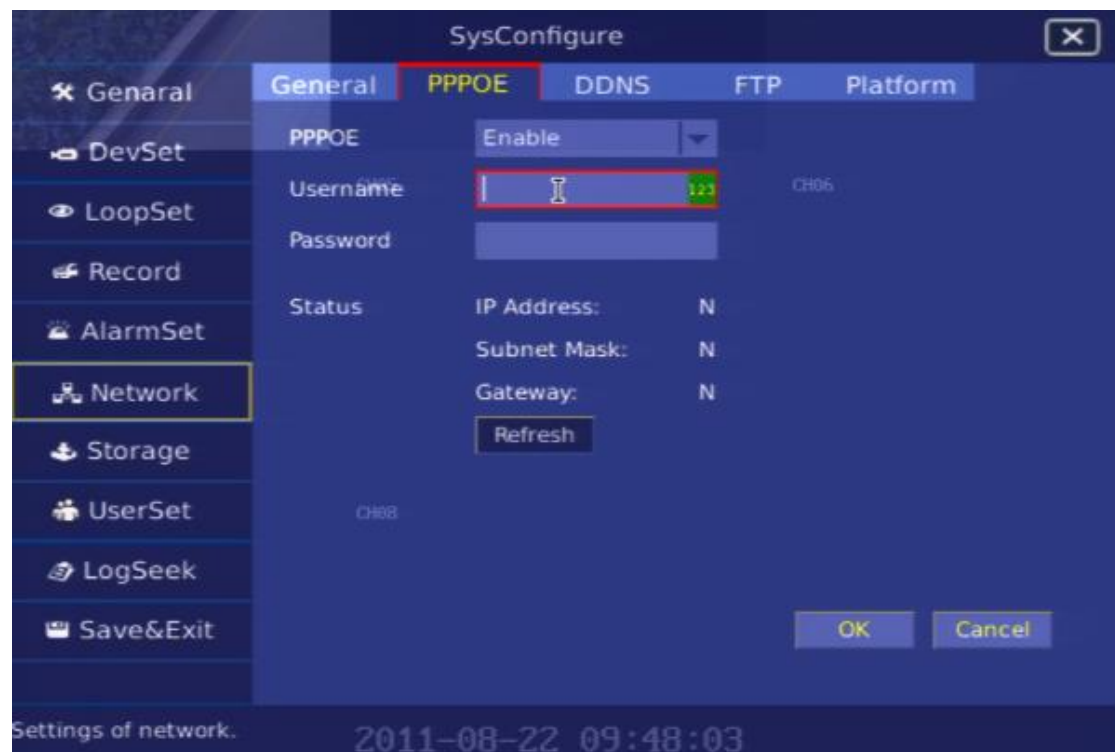
Note: This function is set for the situation where router or PC is not provided.

Setting method:

Path:

Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Network”

Select the “PPPOE” tab.



Step 1: Select “Enable” from the “PPPOE” dropdown box.

Step 2: Enter the network access username and password.

Click the [OK] button.

8.5 DDNS

Note: This function is set for the situation where fixed IP address is unavailable.

Setting method:

Path:

Right-click main menu --> “Setup Menu” --> “SysConfigure” --> “Network”

Select the “DDNS” tab.

Step 1: Apply for a domain name: Enter the 51ddns.net domain name server to apply for a domain name.

Step 2: Enter the DDNS setting interface according to the above path.

Step 3: Select “Enable” from the “DDNS Status” dropdown box, and enter “119.145.0.163” in the “DDNS IP” box, DDNS username and password (which are registered in Step 1) in the related boxes, “CamAnyWhere” in the DDNS Provider box, and “Sub-domain Name.51ddns.net” in the DDNS domain name box.

Step 4: You can change the DDNS update time in the “Interval” box. The default value “60” is recommended.

Click the [OK] button.



Note: All modification of network parameters will be take effect ion need save and reboot NVR

Chapter 9

PTZ Control

9.1 PTZ Parameters Setting

Set the baud rate, upgrade the suitable PTZ protocol (PELCO-P、PELCO-D、TRADE-SD), to make sure PTZ works normal.

9.2 Set and invoke the preset position:

Note

You must enter the PTZ control interface to set and invoke the preset position, cruise and track. Before setting, confirm whether your PTZ decoder supports settings of the preset position, cruise and track.

Set and invoke the preset position:

Step 1: Select “PTZ Control” from the right-click main menu to enter the PTZ control interface.



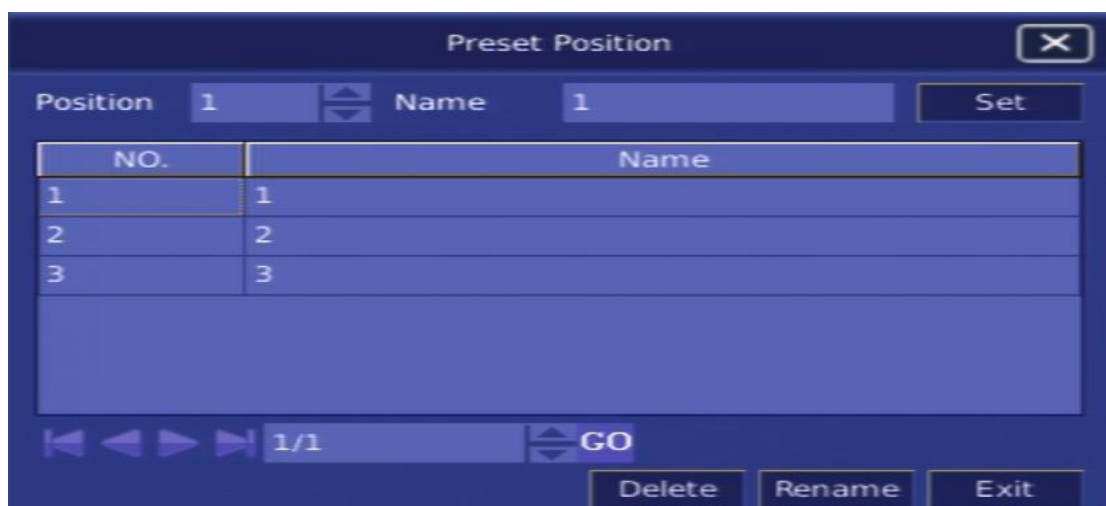
Step 2: Set the preset position

Click **Preset**, enter preset position number and name, click **Set** to set preset position successfully; click **Delete** to delete the preset position which is selected; click **Rename** to modify preset position name which is selected; click **Exit** to exit the preset position setting.



Step 3: Invoke the preset position

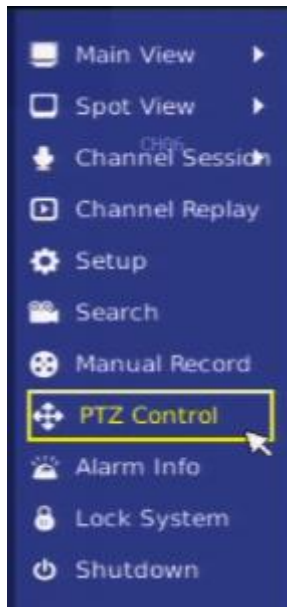
Click **Goto**, you can check the preset position; select preset position, click **GO** to Invoke the preset position; click **Exit** to exit Invoke the preset position operation.



9.3 PTZ Control Operation

Path:

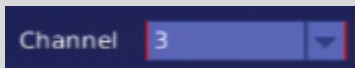

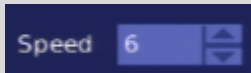
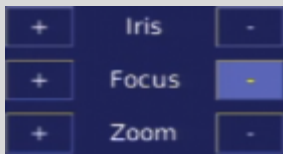

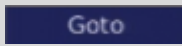
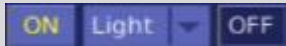
Right-click main menu --> “PTZ Control”



You need to implement PTZ control through the PTZ control bar.

Click “PTZ Control” to display the PTZ control bar.



Button	Description	
	Select the path (in the range of 1 ~ 8) for PTZ setting	
	PTZ direction control and automatic scanning button	
	Adjust the PTZ moving speed	
	Adjust the iris, focus and zoom respectively	
	Set the preset position	
	Invoke the preset position	
	Auxiliary switch, e.g. wiper and mist	

Chapter 10

Hard Disk Management

10.1 Initializing Harddisk

After you power on the device, it will automatically initialize hard disk,

If the icon of a hard disk is ticked, it indicates that this hard disk is normal; if “×” is displayed on the icon of a hard disk, it indicates that this hard disk is not installed or not detected.



10.2 Setting Hard Disk

Setting method:

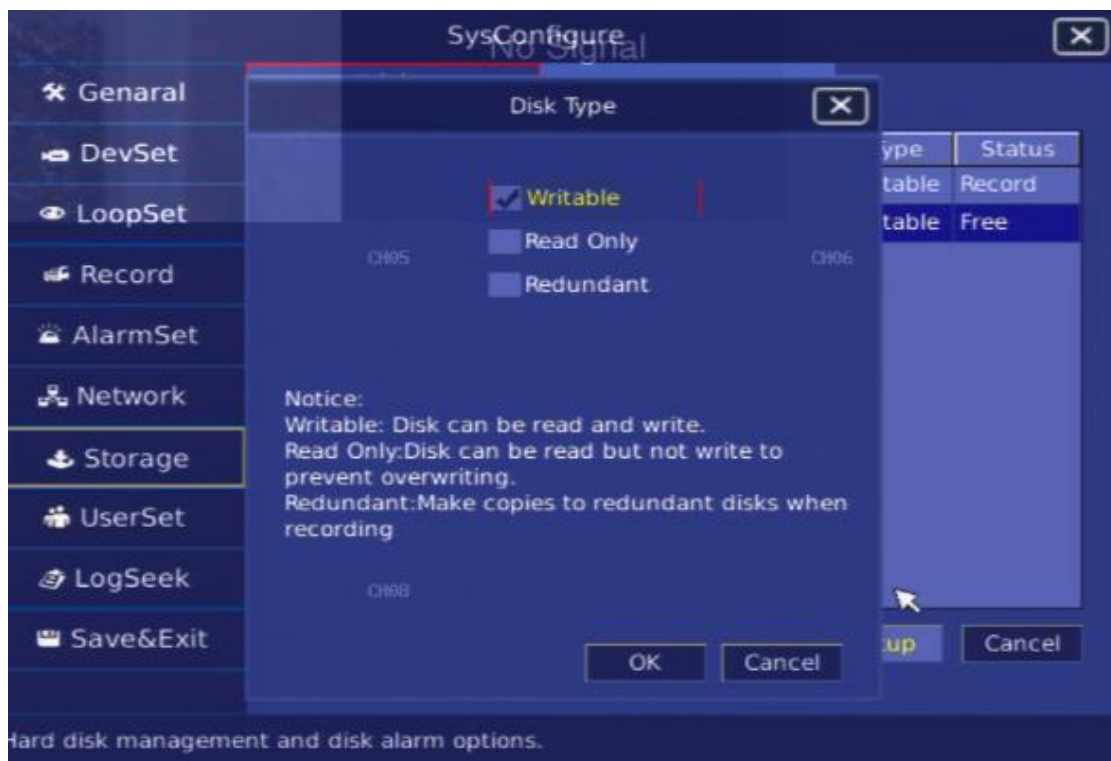
Enter the hddisk management interface by following the path below:

Right-click main menu --> “Setup Menu” --> “Storage”



Step 1, select hard disk.

Step 2, click **Setup**, select disk type, click **OK**



Step 3: In display column, check the hard disk type if same with you set to check if set up successfully.

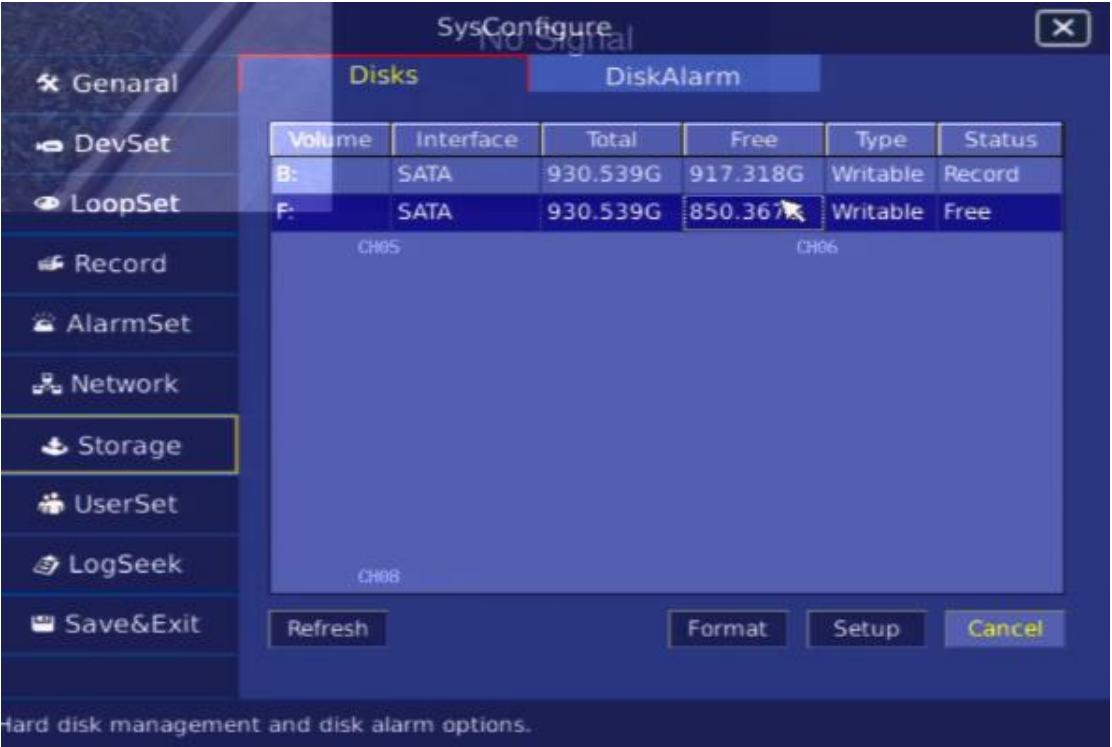
10.3 Formatting Hard Disk

Setting method:

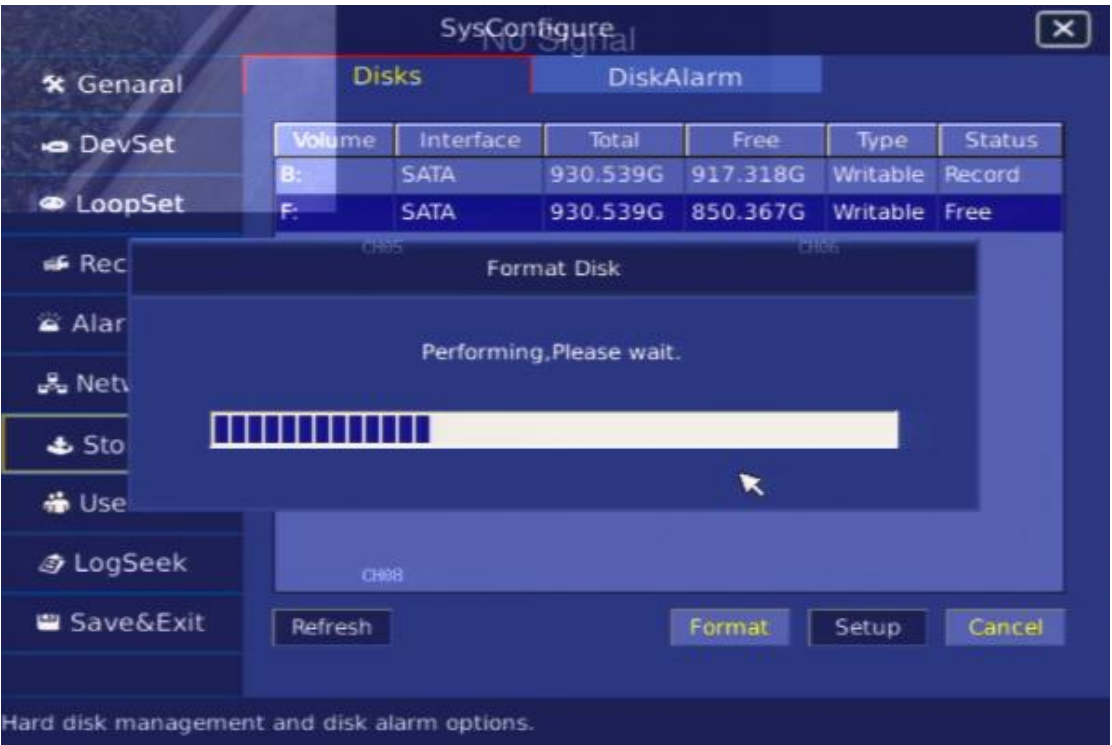
Enter the hddisk management interface by following the path below:

Right-click main menu --> “Setup Menu” --> “Storage”

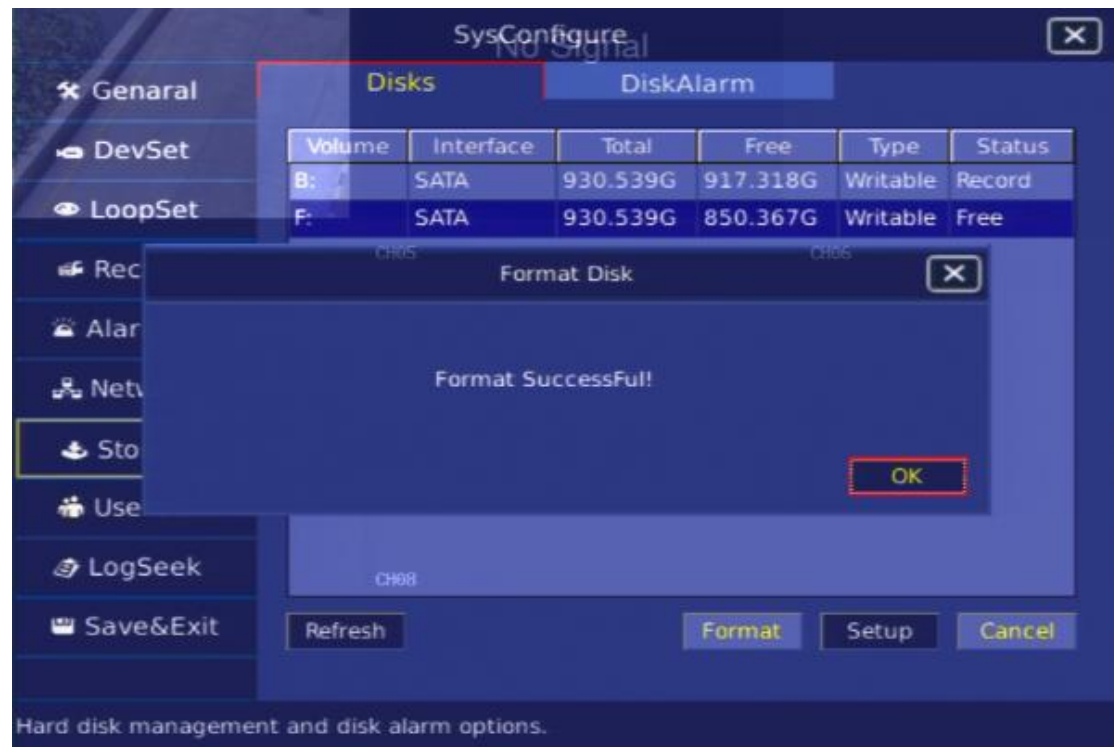
Step 1: Select the hddisk to be formatted.



Step 2: Click the [Format] button in the lower part of the interface.



If format successfully, there will prompt “format successful”, or will prompt “format failed”



Chapter 11

Device Maintenance and Management

11.1 User Management

Notes

The default ex-factory administrator username is “admin”, and password is “123456”. The administrator can add and delete users or configure user parameters.

The system default users are classified into several grades: the administrator group, senior operation group, normal operation group, and the network view group.

Adding a user:

Step 1: Enter the user configuration interface.

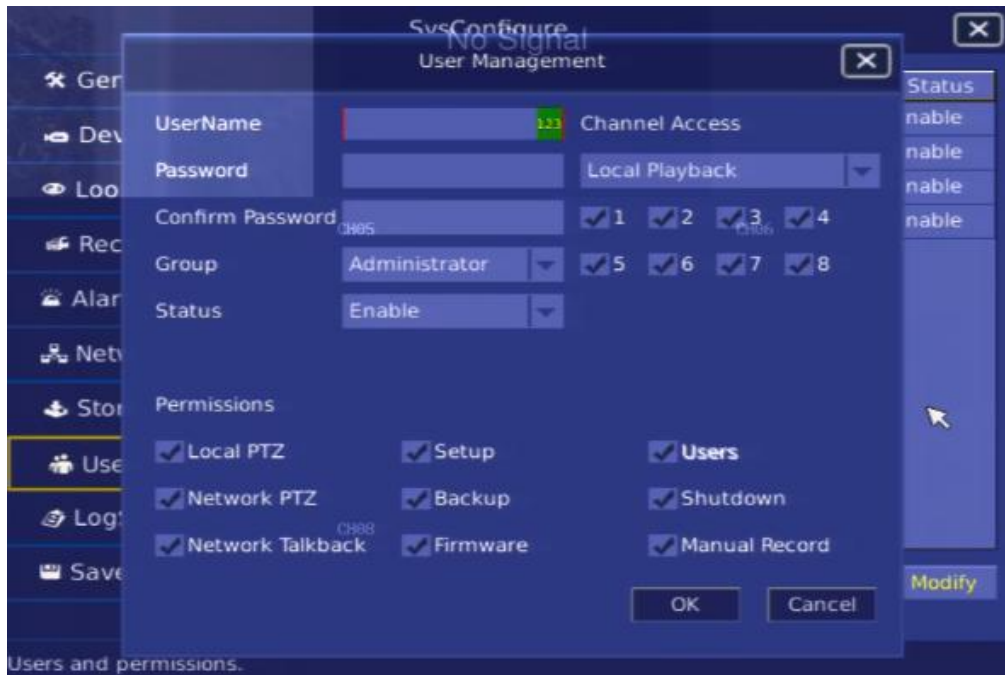
Path:

Right-click main menu --> “Setup Menu” --> “Users”



Step 2: Add User

Enter the username and password to be added in the “Username” and “Password” boxes, and select the affiliated group from the “Group” dropdown box. You can also set permissions for the added user through the “Permissions” options. Finally, click the [Add] button to add the user successfully.



Permission description

“Local PTZ”: The user can set PTZ parameters and control at the local place.

“System Setup”: The user can set and edit system parameters.

“Users”: The user can set user management parameters and add or modify user permissions.

“Logs”: The user can manage the log information.

“Network Talk”: The user can implement the network intercommunication function.

“Network PTZ”: The user can control PTZ through the network.

“Manual Record”: The user can use the manual video recording function.

“Backup Record”: The user can back up the existing video record.

“Shutdown”: The user can shut down the system.

“Firmware Upgrade”: The user can upgrade the system.

The default “admin” user has the highest permission, only can modify the password of “admin” user, can not be deleted.

The administrator user only can manage which permission lower user

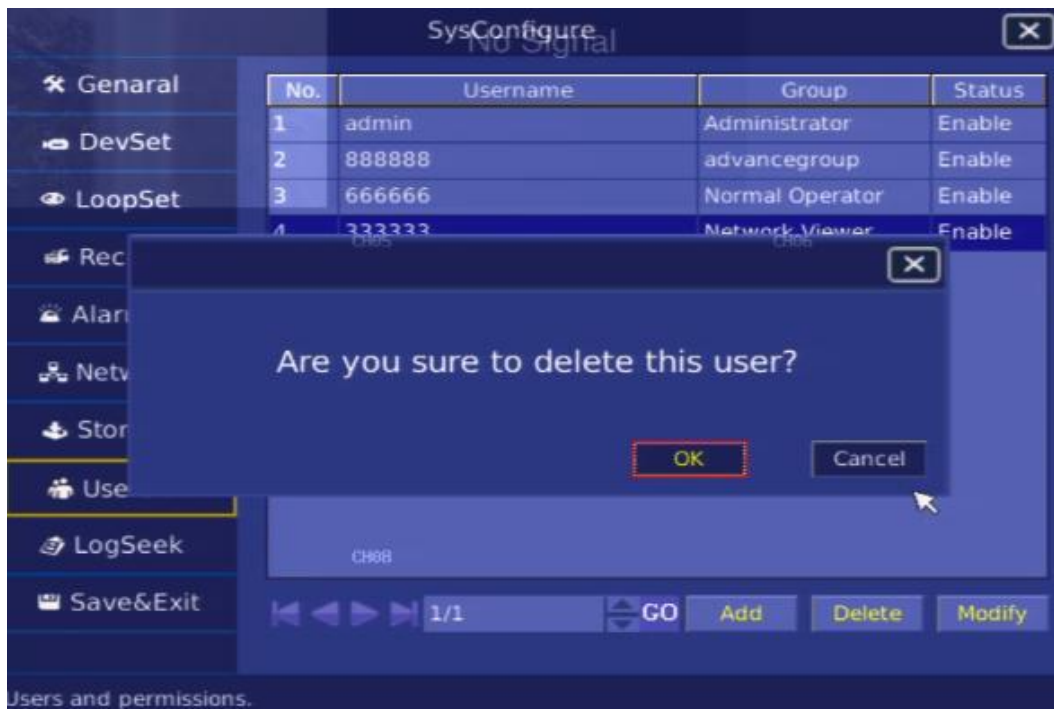
Deleting a user:

Steps: Enter the user configuration interface.

Path:

Right-click main menu --> “Setup Menu” --> “Users”

Select the user to be deleted, and then click the [Delete] button to delete the user. Click [OK] to take effect.



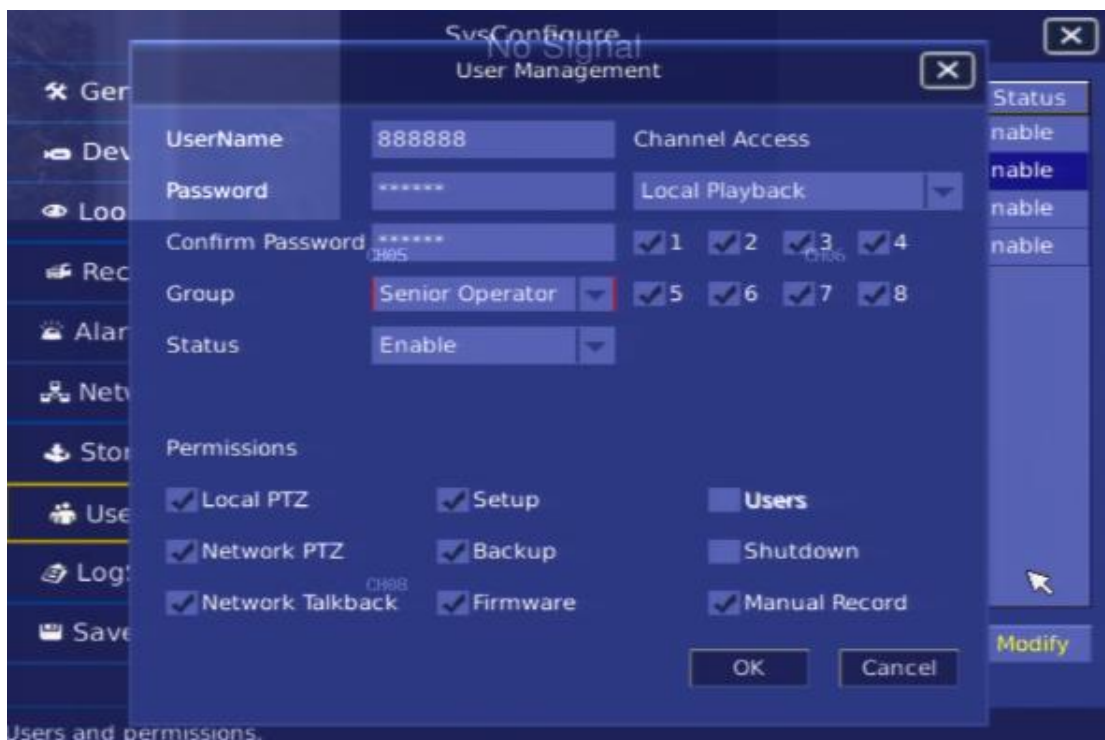
Editing a user:

Steps: Enter the user configuration interface.

Path:

Right-click main menu --> "Setup Menu" --> "Users"

Select the user to be edited, directly modify the password, affiliated group and permissions, and then click the [Modify] button to complete the editing operation. Click [OK] to take effect.



11.2 Log Information

View method

Path: Right-click main menu --> “Setup Menu” --> “Logs”

Step 1: Select the type of the logs to be viewed from the “Type” dropdown box.

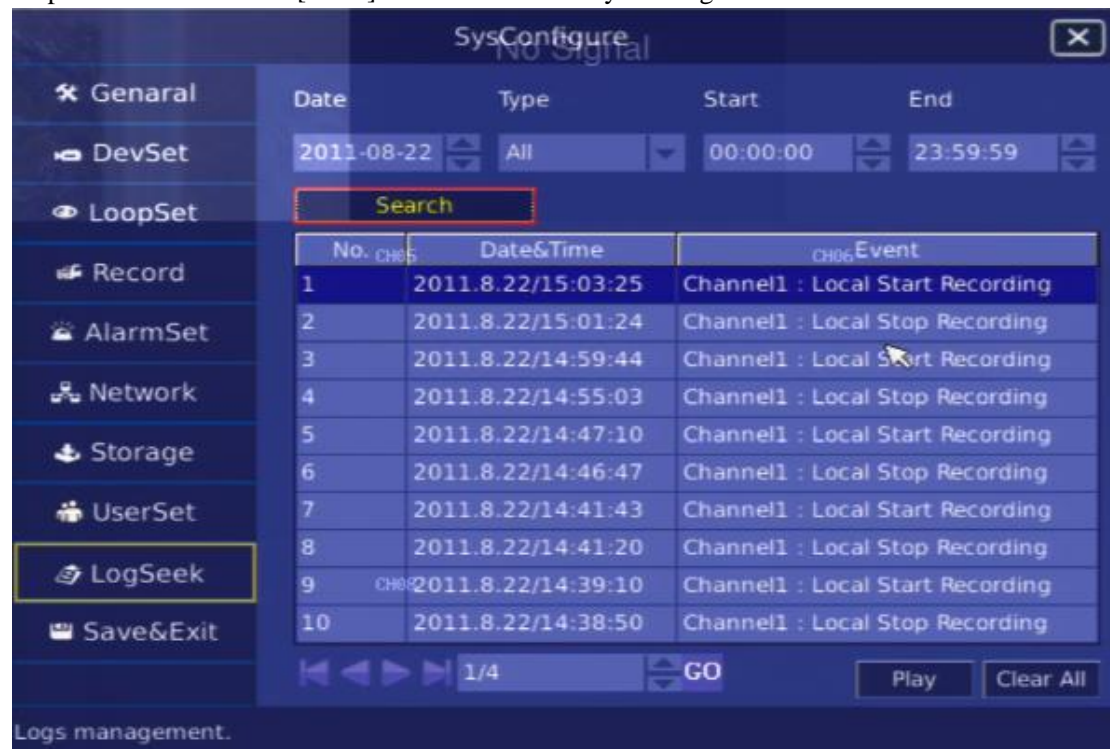
System logs are classified into the alarm type, exception type and operation type. You can also select “All” to view all the types of logs.

Step 2: Select the time to be viewed.

Select a date from the “Date” box and a time segment from the “Time” box and “to” box, and then click the [Search] button to display the logs to be viewed.

Step 3: You can click the  buttons to flip pages and view the log information.

Step 4: You can click the [Clear] button to clear the system logs.



SysConfigure

No Signal

General DevSet LoopSet Record AlarmSet Network Storage UserSet **LogSeek** Save&Exit

Date: 2011-08-22 Type: All Start: 00:00:00 End: 23:59:59

Search

No.	Date&Time	Event
1	2011.8.22/15:03:25	Channel1 : Local Start Recording
2	2011.8.22/15:01:24	Channel1 : Local Stop Recording
3	2011.8.22/14:59:44	Channel1 : Local Start Recording
4	2011.8.22/14:55:03	Channel1 : Local Stop Recording
5	2011.8.22/14:47:10	Channel1 : Local Start Recording
6	2011.8.22/14:46:47	Channel1 : Local Stop Recording
7	2011.8.22/14:41:43	Channel1 : Local Start Recording
8	2011.8.22/14:41:20	Channel1 : Local Stop Recording
9	2011.8.22/14:39:10	Channel1 : Local Start Recording
10	2011.8.22/14:38:50	Channel1 : Local Stop Recording

Navigation: 1/4 GO Play Clear All

Logs management.

11.3 Version Upgrade

Upgrade method: Upgrade from USB

Steps:

Step 1: Enter the version upgrade interface.

Path: Right-click main menu --> “Setup” --> “General” --> “Firmware”

Step 2: Correctly connect the USB device that stores the upgrade file (*.ITM) to the DVR, click the [Get] button, and then select the name of the obtained upgrade file from the list.

Step 3: Click the [Upgrade] button to upgrade the version.



11.4 Time and Information Management

Setting method:

Enter the date and time setting interface.

Path: Right-click main menu --> “Setup” --> “General” --> “Time”

Step 1: Enter the time to be set in the “Set Time” box.

Step 2: Select the form and separator for the displayed date, and click the [ok] button to save parameter settings.



Chapter 12

Other Settings

12.1 Setting System Language, Device Name and Other General Parameters

Setting method:

Step 1: Enter the general parameter setting interface.

Path: Right-click main menu --> “Setup” --> “General” --> “Options”

1. Enter the device ID and name in the related boxes.
2. Select the related parameters from the “Language” box, and set the value in the “Menu Transparency” box.
3. Set whether auto reset is required. If yes, set the auto reset time.

Step 2: After the above settings, click the [OK] button to save the parameter settings successfully.



12.2 Video Parameters Setting

Setting method:

Step 1: Enter the general parameter setting interface.

Path: Right-click main menu --> “Setup” --> “General” --> “Video”

- 1, Select the input video standard from the “Video Standard” box
- 2, Select the resolution of VGA /HDMI output from the “Video Resolution” dropdown box
- 3, Set indentation coefficient
- 4, Set horizontal/vertical denoises.

Step 2: After the above settings, click the [OK] button to save the parameter settings successfully. Change the video standard and resolution of video output, become effective after saving and reboot.



12.3 RS485 Keyboard Setting

Steps: Enter the 485 keyboard configuration interface.

Path:

Right-click main menu --> “Setup” --> “General” --> “COM”

Note: The protocol and baud rate set for the 485 keyboard should be consistent with the parameters on the following interface.




12.4 Restore to Leave Factory Default Parameters

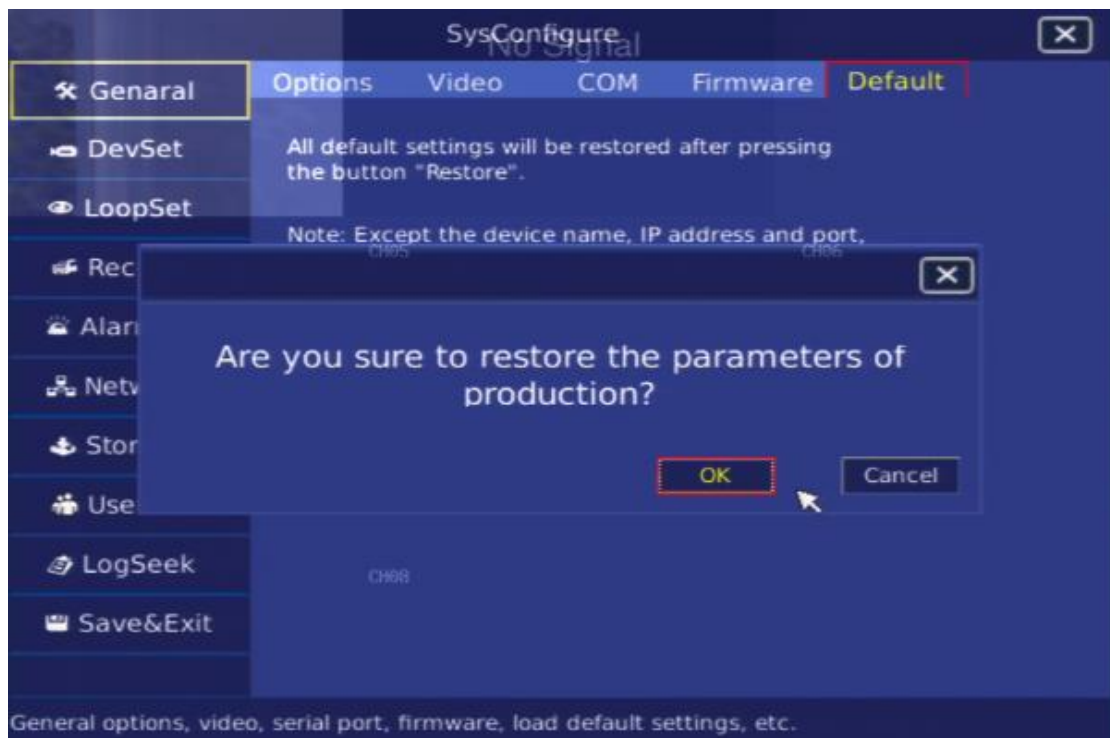
Setting method:

Step 1: Enter the general parameter setting interface.

Path: Right-click main menu --> “Setup” --> “General” --> “Default”



Step 2: Click , there will Prompt “Are you sure to restore the parameters of production?”, click “OK”



Step 3: “Restore the parameters of production successfully, if restart system now?” click “OK”, device restart.

Note: Only “admin” user have the Permissions to restore the parameters of production. Restart NVR after click restore to make sure NVR running normally.

Chapter 13

Appendix

13.1 Glossary

1. GUI (Graphical User Interface)

For example, Windows is operated in the visual GUI mode, because you can click buttons and perform operations on interfaces through the mouse. While, DOS does not provide GUI, so you can only enter commands. The DOS interface is called CUI (Command line User Interface).

GUI is the abbreviation of Graphical User Interface. Usually the design of man-machine interaction graphical user interface is read as “goo-ee”. To put it accurately, GUI is the visual experience and interactive operation part of screen product.

2. DHCP : DHCP (Dynamic Host Configuration Protocol) is used to automatically get IP address.

3. PPPoE: PPPoE is the abbreviation of Point-to-Point Protocol over Ethernet. It enables the Ethernet host to connect to a remote access concentrator through a simple bridge device. The remote access device can control and charge every access user by using the PPPoE. In comparison with the traditional access mode, PPPoE manifests a higher performance-price ratio. It is widely used in a series of applications including cell networking construction, and also applied to ADSL, the current popular broadband access mode.

The modem access technology is confronted with some mutually contradictory objectives. It needs to connect to multiple remote user hosts through the front-end access device of the same user, provide the access control, charging, and other functions similar to dialing-up, and to minimize the user's configuration operations at the same time. PPPoE aims to solve the above problems.

4. PPP: PPP is the abbreviation of Point to Point Protocol.

PPP provides a standard method of transmitting multi-protocol packets over point-to-point connections. The initial design of PPP aims to provide an encapsulation protocol for IP traffic transmission between two peer-to-peer nodes. In the TCP-IP protocol set, PPP is a data link layer (L2 in the OSI mode) protocol for synchronously modulating connection, and replaces the original non-standard L2 protocol, i.e. SLIP. In addition to IP, PPP can carry other protocols, including DECnet and Internet Internetwork Packet Exchange (IPX) of Novell.

5. UPnP: Automatic mapping of port

Question: What is UPnP?

Answer: Universal Plug and Play (UPnP) is the architecture of common peer-to-peer network connection that is applied to PC and smart device or instrument, especially homes. Based on the Internet standards and technologies (e.g. TCP/IP, HTTP and XML), UPnP enables such devices to connect to each other automatically and operate collaboratively, so that more people can use network (especially the home network).

Question: What does UPnP mean for consumers?

Answer: It means convenience, more choices and novel experiences. The network product designed with the UPnP technology can start operating after being connected to the network properly. Actually, UPnP can be used together with any network media technology (wired or

wireless technology), e.g. Category 5 Ethernet cable, Wi-Fi or 802.11B wireless network, IEEE 1394 ("Firewire"), telephone line network or power cable network. When these devices are interconnected with PC, the user can fully use various innovative services and applications.

6. DDNS: DDNS is the abbreviation of Dynamic Domain Name Server. DDNS maps the user's dynamic IP address to a fixed domain name resolution service. Each time the user is connected to the network, the client program sends the dynamic IP address of this host through information transfer to the server program located at the service provider's host. The server program will provide DNS service and implement dynamic domain name resolution. In other words, DDNS captures the user's IP address that changes each time, and then matches it with the domain name. In this way, other online users can communicate with each other through the domain name.

The object of dynamic domain name service means dynamic and variable IP address. The common DNS is based on static IP and may be in the one-to-many or many-to-many mode, but one or more IP addresses are available and fixed. While, the IP address of DDNS is variable and random.

7. Harddisk SMART: S.M.A.R.T. is the abbreviation of Self-Monitoring Analysis and Reporting Technology. It can monitor the magnetic head unit of harddisk, harddisk temperature, medium material of disk surface, motor and its driving system, and internal circuit of harddisk, and timely analyze and forecast problems that may occur to the harddisk. We can see and open this function in harddisk settings of the mainboard CMOS. Nevertheless, this function conducts detection only when the computer is started up, so it is not real-time monitoring. For people who love over-clocking frequency or frequently installing software for test, the harddisk utilization is high, so is the problem occurrence probability. Therefore, they more urgently require a real-time harddisk monitoring tool.

8. I frame

I frame is the intra-frame encoding image that compresses the transmitted data by reducing the redundant information of image space as much as possible, and is also called key frame.

B frame

B frame is the encoding image that compresses the transmitted data by considering both the encoded frame before the source image sequence and the time redundancy information between encoded frames behind the source image sequence, and also called bidirectional predictive frame.

P frame

P frame is the encoding image that compresses the transmitted data by fully using the time redundancy information that is lower than the encoded frame in the front in the image sequence, and is also called predictive frame.

9. NTP

Network Time Protocol (NTP) is used to implement computer time synchronization. It enables the computer to synchronize time with its server or clock source (such as a quartz clock or GPS). In addition, it can correct time at a high precision (the difference from the standard time on LAN is smaller than 1 millisecond, and than on WAN is smaller than dozens of milliseconds)

13.2 FAQs

Question: Why can't the speed dome be controlled?

Answer: Please find out the reason as instructed below:

1. Check whether the cable connection of RS-485 interface is wrong;
2. Check whether the decoder type of speed dome is wrong;
3. Check whether the decoder rate set for the speed dome is wrong;
4. Check whether the decoder address bits set for the speed dome are wrong;
5. Check whether the RS-485 interface of the main board is damaged.

Question: Why isn't video recording been made after motion detection is set?

Answer: Please check whether the related settings are completed according to the sequence and whether these settings are correct:

1. Check whether the set recording time is correct, including the time settings in a single day and time settings in a whole week;
2. Check whether settings of the motion detection area are correct;
3. Check whether video recording of the responding channel is triggered in alarm handling of motion detection.

Question: Why can't the backup device be found when the video record file is backed up?

Answer: The backup device cannot be identified because it is incompatible with the NVR.